

# LEE TECH TALK

## TECHNICAL APPLICATION NEWS BRIEF

### DISPENSE PUMPS ENABLE DESIGNERS TO MEET FLUIDIC CHALLENGES IN EVOLVING IVD INSTRUMENTS

#### THE CHALLENGE

The IVD market is undergoing a transformation that is challenging instrument designers at many levels. Increased cost pressures from new reimbursement schedules demand more efficient tests, not only with sample and reagent usage but also in reliability and speed. The instrument size and simplification of fluidic techniques must be addressed to accommodate point of care testing services without sacrificing throughput. With the market landscape evolving, so is the demand for smaller specimen samples used to aliquot and deliver reagents needed to achieve a high degree of accuracy and precision.

#### THE SOLUTION

The Lee Company's LPD Series variable volume dispense pumps feature a stepper motor driven, positive displacement design that provides unmatched performance and reliability at an economical price. Equipped with a home sensor for end of stroke positioning and a rotary optical motor encoder for piston movement feedback, our pumps provide unparalleled dispense accuracy and precision. These elements, together with a unique drivetrain design and wear-resistant materials, enable the pumps to achieve consistent performance for a minimum of 10 million cycles. LPD Series pumps are available in a wide range of dispense volumes and material options. They also feature the added capability of integrating valves and other components into the port head design, minimizing potential leak points and increasing design flexibility.

#### THE BENEFITS

In addition to test speed and reliability, reducing downtime is also an important consideration in instrument design. Unlike typical syringe pumps, which require periodic maintenance, LPD Series pumps are completely maintenance free and rated for millions of cycles. This enables our pump to be placed where the fluidic requirements dictate, regardless of accessibility. By placing the pump near the fluid reservoir, tubing lengths and flow restrictions are reduced, which in turn provides faster aspiration rates, higher throughput and shorter test cycle times. Having a reliable pump that can last the life of your instrument will reduce downtime and service requirements, resulting in an overall cost savings.

#### POTENTIAL APPLICATIONS

Lee LPD Series pumps are field proven in reagent dispensing, aliquoting, probe washing and sample preparation applications, and provide high reliability and dispense accuracy at an economical price. With the LPD Series pump leading the way as fluidic requirements advance, so does the need for components to offer the design flexibility for use in point of care platforms.

#### LEE LPD VARIABLE VOLUME PUMPS

The LPD Series pump is a critical asset in today's demanding diagnostic instruments, setting the standard for high performance and reliability. With features like small size, incomparable dispense accuracy and precision, extended cycle life, and a high level of chemical inertness, our pumps have long been an outstanding choice for challenging applications. Every pump is manufactured in our state-of-the-art facility in Connecticut, USA, and is rigorously tested for performance. Whether using a stand alone pump or one with custom engineered port heads integrating valves and pumps together, our pumps can overcome any fluidic challenge. The Lee Company has been pioneering the development of fluid control technology for many years, providing engineering expertise to simply the design process. Let our experienced team of engineers help simplify your design today.



#### THE LEE COMPANY

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