

# LEE TECH TALK

## TECHNICAL APPLICATION NEWS BRIEF

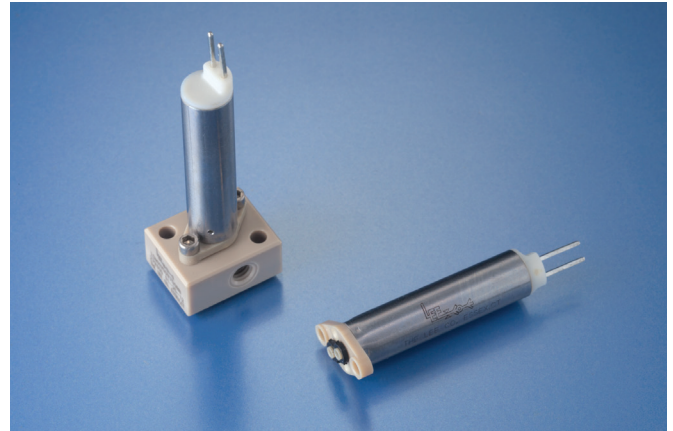
### **MINIATURE ISOLATION SOLENOID VALVES REDUCE INSTRUMENT FOOTPRINT AND REAGENT VOLUME REQUIREMENTS WITHOUT COMPROMISING RELIABILITY**

#### **The Challenge**

The demand for chemistry analyzers to be more integrated, while offering higher throughput and expanded testing capability without compromising results, continues to challenge instrument designers. As the healthcare landscape evolves, new assays are constantly being discovered to diagnosis various diseases. With the use of traditional test methodologies, such as photometry, nephelometry or ion selective electrode, scientists continue to favor analysis speed using precision fluidics to maintain specimen integrity. Finally, the adoption of downsizing instruments to reduce footprint is paving the way for new technology in the point of care settings and reducing the need for large sample volumes.

#### **The Solution**

The Lee Company's LFN Series solenoid valve is chemically inert and has an isolation style design with zero dead volume. Available as a 2-way normally closed model, this valve features a low internal volume (9  $\mu$ L) and a contoured flow path that enables complete flushing capability. Additional attributes include: compact size (7 mm), fast response time, low power consumption (900 mW), and exceptional sealing performance. With these characteristics, the LFN Series is well equipped to help simplify the task of optimizing system level operation. The valve also provides reliability without compromising performance thanks to its extended life of 10 million cycles.



#### **The Benefits**

The LFN Series valve offers cascading benefits to overcome the challenge of providing precise and reliable performance at an economical price. The valve's compact size enables the flexibility to reduce instrument footprint. In addition, the low internal volume of the LFN Series helps to minimize transport volume constraints needed to fill the system, further reducing the sample and reagent volumes needed for aliquoting. The valve features a unique flow path geometry and fast switching response which allow for a fully swept volume to ensure sample integrity and test processing efficiency. Furthermore, the LFN Series is constructed of inert materials to further enhance system performance and compatibility with a broad range of assays.

#### **Potential Applications**

Whether used for aliquoting, controlling the supply of reagents, dispensing, or during titration, the performance and reliability of the LFN Series solenoid valve cannot be matched. Additionally, the valve is suitable for use in calibration, probe washing, and flushing. There are many options available for drive voltages, sealing material and performance versatility depending on the application. The numerous challenges of chemistry analyzers can be overcome with the right fluidic solution.

#### **Lee LFN Series Isolation Solenoid Valves**

These compact isolation style solenoid valves are part of The Lee Company's comprehensive array of microfluidic components used throughout the diagnostics industry. Featuring a compact size, low internal volume, and superior reliability, the LFN Series solenoid valve is the ideal candidate for point of care instruments. The Lee Company has supplied millions of solenoid valves worldwide from our state-of-the-art manufacturing facility in Connecticut. Let our experienced team of engineers help assist you today.

#### **THE LEE COMPANY**

2 Pettipaug Rd., P.O. Box 424, Westbrook, CT 06498-0424 • Tel: 860-399-6281 • Fax: 860-399-7037 • [www.theleeco.com](http://www.theleeco.com)