



**Optimize Clinical Laboratory Instrument  
Design and Accelerate Speed-to-Market**

**High-Performance Miniature Fluid Control Solutions**

Proven custom solutions and local expertise to help you  
overcome your toughest challenges.







You need a fluid control system supplier you can trust with your most challenging demands.

## Quickly delivering high-performing, custom fluid control systems that meet today's most challenging demands

Creating custom fluid control systems for clinical laboratory instruments isn't easy—especially on tight deadlines. At Emerson, we know what you're up against. We'll help you create a custom fluid control system that meets the challenging demands of today's clinical diagnostic market.

The design, engineering customization and procurement of essential fluid control systems are important elements of total development time. Any delay can prevent you from meeting your aggressive time-to-market goals.



Advancements in diagnostic testing methods make it difficult for OEM engineers to design a complete fluid control system that is precise and reliable, reduces complexity, and adds value to the manufacturing process.



It's rare to find suppliers of clinical laboratory components that have a comprehensive product offering, including valves, fittings, manifolds, pressure regulators, and tubing.



# Fast customization and technical expertise—all from a single supplier

Emerson has one of the broadest portfolios of miniature fluid control products on the market. Our engineers have deep technical knowledge and understand the requirements for today’s clinical laboratory instruments. Not only will we work with your team to design a high-performing fluid control system that meets your most stringent technical requirements, but we’ll deliver a fully-engineered, production-ready system quickly.



## Take advantage of our rapid design and development

- Our Rapid Engineered Solutions program enables fast prototyping
- We can customize quickly—improving your time-to-market
- Our responsiveness to your changing needs avoids development delays

“Emerson was able to provide us with a fully functional valve manifold assembly in just a couple weeks, and it was exactly what I needed.” – Mechanical Fluidics Engineer, Global IVD Company



## Take advantage of our technical expertise

- Our engineers have extensive experience within the clinical diagnostic field
- Our fluid control systems reduce system complexity for improved manufacturability
- We prioritize the fluid control path to optimize design —improving instrument efficiency

“I was pleasantly surprised when product development engineers requested to visit our R&D facility to discuss our new instrument design and capability requirements.” – Director of New Product Development, Hematology OEM



## Take advantage of our extensive product portfolio

- Choose from a wide variety of valves, assemblies, tubing—and more
- Our extensive portfolio means component availability is never an issue
- Receive a total solution that meets your rigorous design constraints

Having a broad portfolio of miniature fluid control products available, an analytical instrument manufacturer no longer needed three independent component suppliers, significantly streamlining its procurement processes.

# Industry proven fluid control solutions tailored to your unique application requirements.

## Applications

### Clinical Chemistry

- Highly chemical resistant isolation valves for aggressive media.

### Immunoassay

- Very low internal volume solenoid valves to increase instrument efficiency.

### Hematology

- Miniature valves for high-purity applications where contamination must be eliminated.

### Molecular Diagnostics

- Total fluid-handling solutions for multi-channel media flow-paths.

### Cytometry

- Uninterrupted and sterilized flow paths allow pinch valves to be an ideal solution.

### Urinalysis

- High throughput instruments requiring precise dosing of reagents.

### Sample Preparation

- Small form-factor fluid control solutions for high throughput instruments.

### Point-of-Care

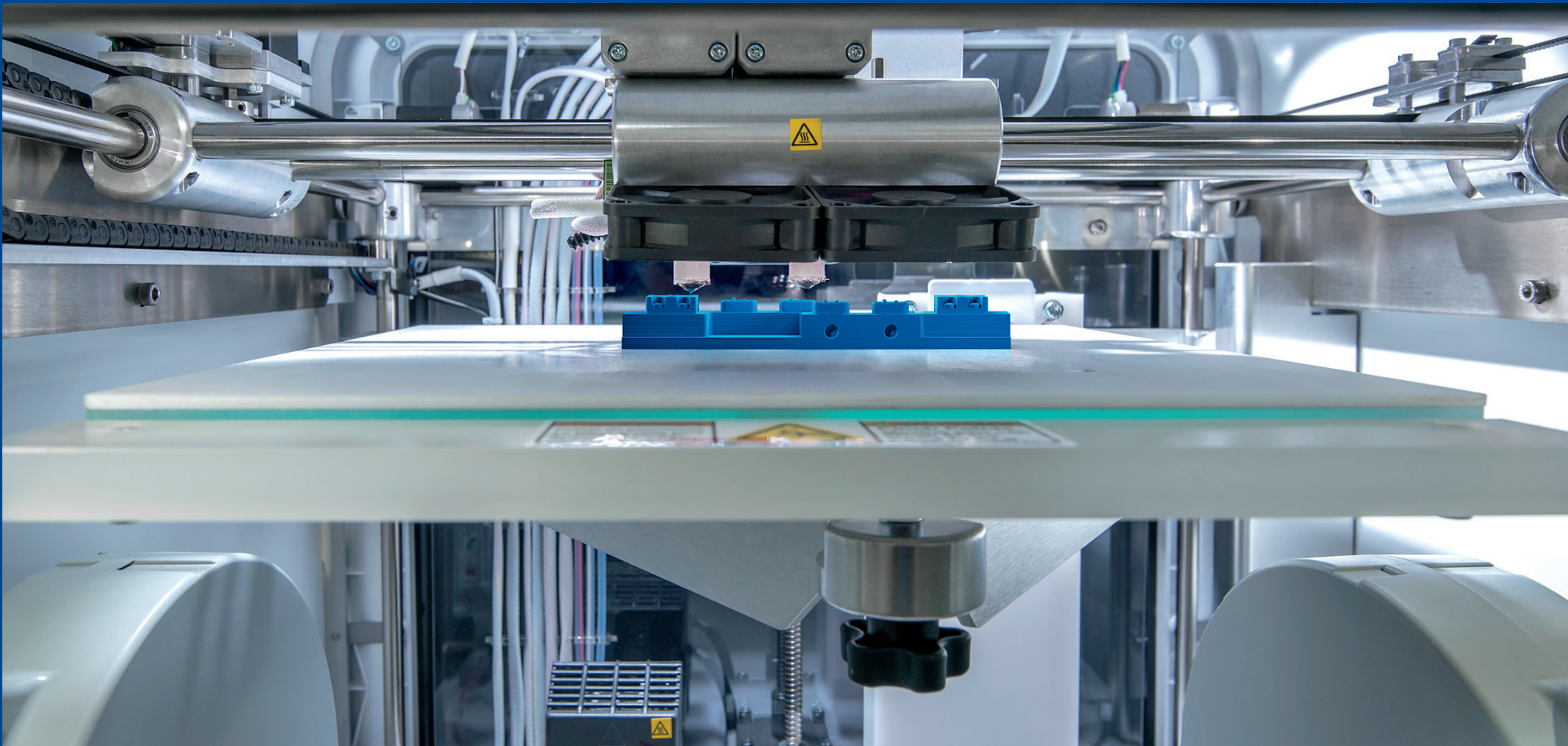
- Customized miniature flow control solutions with dramatically reduced size.

### Lab-on-a-Chip

- Innovative technologies for reagent loading and chip.







## Breadth of Fluid Control Products

Thanks to our extensive offering of valves, manifolds, pressure regulators, and more, we can quickly customize and combine our products into high-performing fluid control systems.

## Rapid Engineered Solutions

By responding quickly to your customization requests, we can provide you with production-ready systems when you need it.

## Breadth of Fluid Control Products

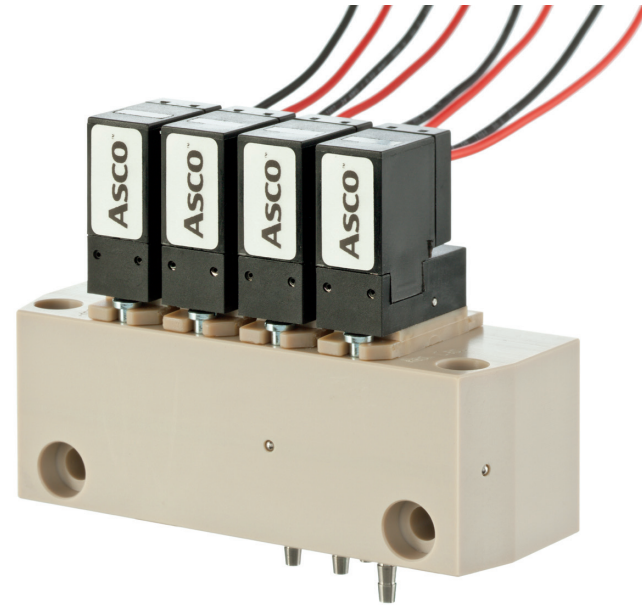
Emerson is your single source for a wide variety of ASCO™ fluid control components; including miniature pinch, liquid isolation, proportional and general service valves, as well as fittings, manifolds, tubing and pressure regulators. Not only do our products accommodate unlimited configurations, but they achieve the highest levels of precision, functionality, safety, and efficiency required by clinical laboratory applications—all while featuring the lowest power consumption in the industry.

**ASCO™**

### Rapid Engineered Solutions

Our Rapid Engineered Solutions program focuses on the unique needs of analytical and medical instrument manufacturers. The program creates miniature valves and fluid control assemblies customized to your exact needs, and delivers them at unprecedented speeds.

From concept to production, we'll deliver your complete solution, including valves, electrical terminations, pins and housings - based on your accelerated timelines.



### Your One-Stop Design and Development Partner

With our broad range of products and engineering capabilities, we specialize in customized designs. Our capabilities include additive manufacturing, diffusion-bonded manifolds, customized fittings, electrical connections and wire harnesses for plug-and-play installation. We seek to be an engineering and development partner to OEM device manufacturers, and remove the burden of fluid control path design.



### Fluid Control Design Technical Expertise

Our local technical support and engineering teams will work with you to develop, design, and build a high-functioning fluid control solution that reduces system complexity while simultaneously adding value to your manufacturing process. We'll help you select the right products and develop a fully optimized system that addresses the unique challenges of your application to include the variables that often get overlooked, such as flow through the instrument, component heat transfer, and material compatibility.



## Dispensing Valves

### Series 038



With a width of only 5.7 mm, the ASCO Series 038 isolation valve has incredibly low internal volume and low power consumption, resulting in a valve that is perfectly suited for dispensing and precise flow control.

- Latching coil version available for minimal heat transfer to thermally sensitive samples.
- Applications that would benefit from using the Series 038 include Sample Preparation, DNA Sequencing, Dosing and Dispensing, and Immunoassay.

## Waste Removal Valves

### Series 067



Rocker isolation valves are designed for use with neutral or highly aggressive liquids in analytical instrumentation.

- Rocker mechanism, combined with a separating diaphragm, prevents heat transfer to the fluid and eliminates the sticking effect of the valve seat.
- Hermetic separation of control mechanism prevents particulate contamination, assuring maximum purity of liquid samples.

### Series 283



Lever mechanism isolation valves designed for use with aggressive and corrosive liquids requiring large orifice sizes make these valves ideal for high flow-rate and high-pressure applications

- Ideally suited for quickly flushing analytical systems of corrosive media and routing aggressive reagents to chemical reaction vessels and waste containers.

## Pinch Valves

### Series 284 / 384



These 2-Way and 3-Way normally closed, and normally open solenoid-operated pinch valves are designed for use with highly aggressive or high-purity liquids in analytical and medical instrumentation.

- Available in a wide range of body sizes to accommodate a variety of tubing diameters required for any sized instrument.

## Reagent Control Valves

### Series 058



Special media separating soft-seal PTFE diaphragm, prevents any potential leakage of critical reagents.

- Very low internal volume of only 29 $\mu$ l to save on costly reagents.
- 30% lower power consumption over similarly sized valves on the market: power consumption of only 2.8W helps reduce heat transfer to thermally sensitive reagents and samples.

### Series 068



Flapper isolation valves are designed for use with neutral or highly aggressive liquids in analytical systems. Proportional versions available to control the flow of liquids and gases by varying the electrical input signal to the coil.

- No pumping or sticking effects
- Reduced heat transfer makes them ideal for use with heat-sensitive reagents and biological samples.

### Series 082



Series 082 miniature solenoid isolation valves designed for use with highly aggressive liquids in analytical instruments. Their highly chemical resistant construction material, lower power consumption and easy manifold mounting design make them ideal for sorting and controlling corrosive or sensitive reagents and samples.

- The 082 Series typical applications include Clinical Laboratory Instruments and Water Quality Analyzers.

### Series 110



Rocker solenoid valves are industry proven and known for their exceptional flushability and minimal pumping effect.

- Designed for Hematology analyzers requiring easy-to-access fluidic connections.
- Can be used as a low internal volume flow-through sampling valve due to advanced rocker technology.







For more information, visit [Emerson.com/MedicalDiagnostics](https://www.emerson.com/medicaldiagnostics)

## Get started



Emerson delivers time-tested and innovative fluid control solutions designed to help you improve your operation's overall time-to-market while reducing system complexity and increasing efficiency. Contact us for world-class technologies and services that can maximize your ability to control the flow of aggressive fluids in a variety of clinical diagnostic technologies and bioinstrumentation. Getting started is easy.

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