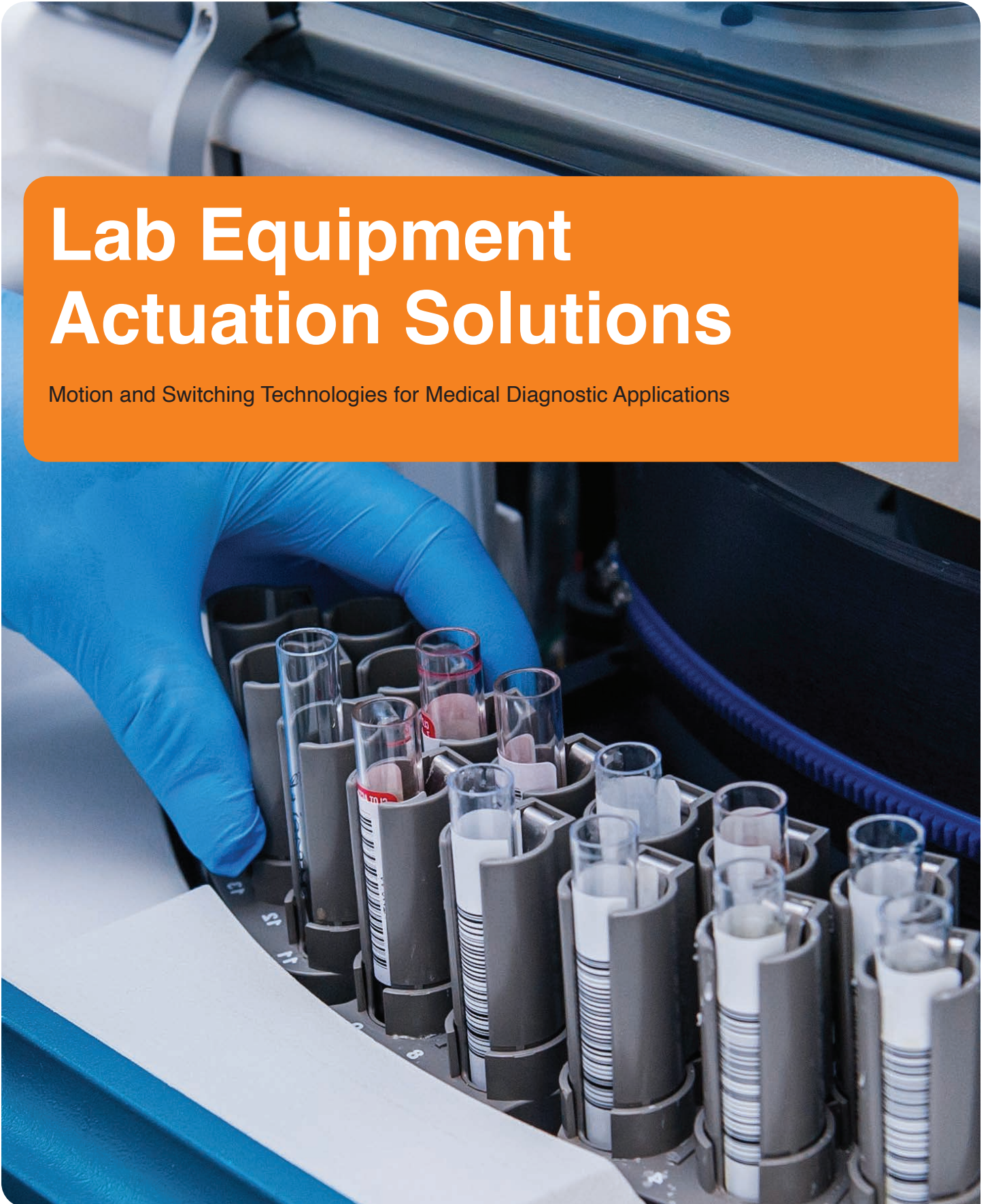


Lab Equipment Actuation Solutions

Motion and Switching Technologies for Medical Diagnostic Applications





The Industry Leader in Motion Solutions

Speed, accuracy, reliability, and safety are critical to the testing process in today's rapidly evolving laboratory equipment market. Demand is growing for smaller, faster, and more broadly distributed testing equipment capable of automating as many functions as possible.

Many of the world's leading equipment manufacturers rely on Johnson Electric for smart motion devices that satisfy these needs. From blood coagulation monitoring to high-speed PCR

analysis and magnetic resonance imaging (MRI) equipment, we provide precise motion and switching technologies that enable dependable and compliant testing processes. Our U.S.-based team custom-engineers flexible interconnects and high-speed motion controls for all levels of automated testing, from portable tabletop units to large-scale analyzers, capable of performing more than two million cycles per year in a commercial lab environment.

We Make Two Million Actuators a Day — But That's Not All

Johnson Electric is one of the world's leading suppliers of motion products, including micro-DC motors, piezo motors, solenoids, microswitches, and custom actuators specifically tailored for each unique application. You'll also benefit from collaboration with a strong, experienced partner that can help you expedite innovation and create custom solutions that give you a competitive edge.



Motion Innovation

Johnson Electric traces its roots to the rotary solenoid, flexible cable, and the microswitch, and continues leading-edge innovation to this day.



Engineering Expertise

From custom components to complete solutions, an Ohio-based engineering team is ready to put more than 500 years of collective experience to work for you.



High-Level Assembly (HLA)

We can design and manufacture your entire assembly — including motors, molded housings, flexible cables and PCBs with software solenoids, sensors, and cables — and provide fully tested units.

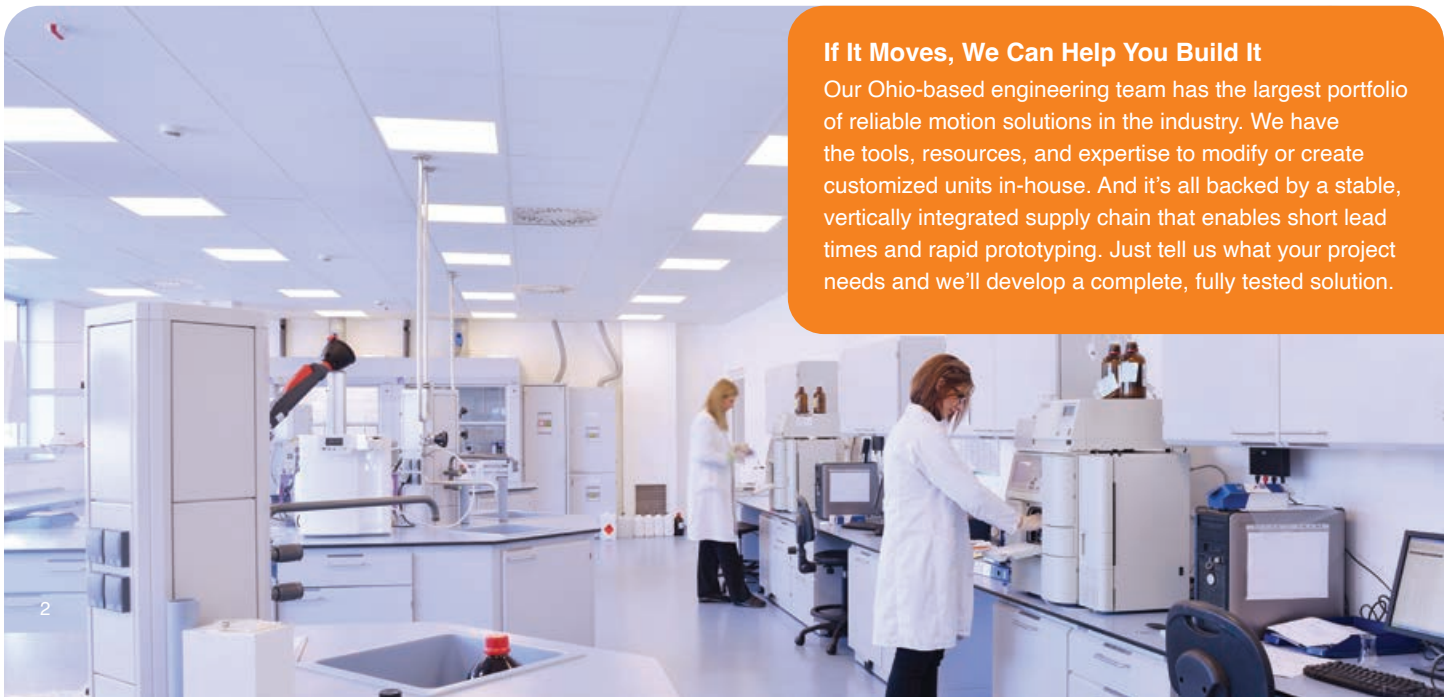


Domestic Partner, Global Footprint

Made in the U.S. and backed by facilities in 22 countries on four continents ensures shorter lead times, lower transportation costs, and domestic support.

If It Moves, We Can Help You Build It

Our Ohio-based engineering team has the largest portfolio of reliable motion solutions in the industry. We have the tools, resources, and expertise to modify or create customized units in-house. And it's all backed by a stable, vertically integrated supply chain that enables short lead times and rapid prototyping. Just tell us what your project needs and we'll develop a complete, fully tested solution.





Trusted by the World's Leading Manufacturers

Eight of the top 10 life sciences and laboratory equipment manufacturers count on Johnson Electric products for functions such as:

- Locking/unlocking cartridges and doors
- Dynamic interconnects
- Actuating membrane pumps
- Fluid mixing
- Automated pipette dispensing
- Reagent dispensing

Complete Solutions From One Domestic Partner

Whether you need to lock, push, pinch, dispense, or transmit power and data, Johnson Electric can help you develop complete subassemblies that meet your exact specifications. You'll get precise, consistent, and reliable automation that delivers faster results and superior accuracy.

Product Offering

Ledex® Solenoids: Linear and Rotary Actuation

Johnson Electric industry-leading solenoids deliver high force in compact units with varying stroke options, outperforming similar-sized rivals. With a proven reputation for long life and whisper-quiet operation, they're ideal for diaphragm pumps, locking mechanisms, thrust lockouts, divert applications, and more.

Motors and Motion Systems

Platform includes state-of-the-art piezo motors, stages, and fail-safe amplifiers designed for the most challenging diagnostic requirements.

Peristaltic Pumps

Compact, hygienic, long-life, brushless DC (BLDC) pumps with highly controlled flow rates are ideal for reagent dispensing with no cross-contamination.

Switches

Manually operated, automatic shutoff, and snap-action microswitches provide 100% consistent and accurate performance in critical applications.

Microfluidic Test Strips

These electrochemical sensing circuits feature microfluidic channels for rapid specimen sample testing. They're suitable for ER point of care, doctors' offices, or home usage.

Parlex® Flat Flexible Cables

Made-to-order laminated flexible cables allow you to easily run wiring in compact, low-profile spaces. Cables exceed the flexibility life requirements of laboratory equipment and can be shielded to meet the electromagnetic interference (EMI) and radio frequency interference (RFI) requirements of today's complex designs.

Parlex Flexible Printed Circuits

Made with our proprietary polymer thick-film technology and medical hydrogels expertise, Parlex flex circuits protect low-level signals with double-sided shielding. Additive manufacturing allows multiple layers while remaining thinner and more flexible than the competition.



Assure Test Accuracy and Precision With Solligence™

Solligence, the Smart Servo Solenoid Actuator, provides motion assurance for critical laboratory applications, from life-saving medical equipment to high-security locking.

Artificial intelligence (AI) reduces the risks of inaccurate results or failed tests by monitoring equipment motion profiles, ensuring full system performance with a continuous data stream. This enables feedback loops for system functions such as actuation assurance and reagent release, while allowing all other components in your system to operate more effectively and confidently.

Why Johnson Electric?

Johnson Electric traces its roots to the creators of the rotary solenoid, flexible cable, and the microswitch, with an ongoing foundation of innovation spanning more than 80 years.

Today, Johnson Electric is the leader in motion subsystems. Technological leadership, application expertise, and a global footprint make Johnson Electric your ideal solution partner for differentiated product development projects and supply chain excellence.

High-Quality Components and Subsystems

- Proven-quality products enable fewer errors and faster results while reducing downtime and field maintenance
- Engineering support is available for custom motion solutions, rapid prototyping, testing, and more
- Dependable and responsive domestic supplier, local U.S. support
- Serving the industry's needs for smaller, more compact, and geographically distributed units
- In-house miniaturization capabilities, including integrated printed circuit boards (PCBs) and microfluidics
- Easy to integrate with design guidelines

Sustainability

- Johnson Electric engineers focus on developing products that consume fewer manufacturing resources, use less energy, and last longer
- Partner with suppliers to minimize environmental impact, carbon emissions, carbon footprint, resource use, waste, and pollution
- Road map to aggressive sustainability milestones in 2025 and 2030

Minimize Your Supply Chain Risk

- Largest portfolio of actuators and other components for all lab equipment applications
- Engineered in Ohio and manufactured in North America
- Standard parts in stock via vertically integrated distribution network, breadth of supply

Accuracy

- Precise measurements and dispensing
- Continuous or on-demand device feedback
- Minimize human errors

Compliance and Certifications

- ISO 9001: 2015 With Product Design
- ISO 14001: 2015
- ISO 13485: 2016
- FDA Registered Medtech Only
- IATF 16949: 2016 With Product Design
- ITAR Compliant
- UL and CE Compliant
- REACH and RoHS Compliant