

POWERING THE ENERGY INDUSTRY

ENGINEERED PRODUCTS FOR RELIABILITY, SAFETY & EFFICIENCY

Kelco Industries unites four specialized divisions to provide complete solutions for the energy sector. Our products keep energy moving in some of the world's most demanding applications—from power generation and oil & gas to renewable energy and energy storage. With over a century of engineering heritage and AS9100/ISO-certified quality systems, we design and manufacture solenoids, relays, expansion joints, bellows, seals, gaskets, and high-performance plastic components that withstand extreme temperatures, pressures and vibration.

INTEGRATED EXPERTISE

Kelco Industries integrates four divisions—Guardian Electric, Flex-Weld, Western Consolidated Technologies (WCT), and Advanced Molding Technologies (AMT)—into a single source for energy-industry components. Each division brings specialized expertise that supports power generation, oil & gas, renewable energy and data center applications.



GUARDIAN ELECTRIC

ACTUATION & CONTROL

Guardian Electric designs high-reliability tubular, open-frame, latching and laminated solenoids and precision-wound coils. We tailor stroke, force curves, voltage and packaging to your exact requirements, delivering mission-critical performance in harsh energy environments. Our precision electromechanical relays provide durable switching for signal and power control with coil voltages ranging from 3 VDC to 240 VAC and current ratings up to 30 A.

PRODUCTS

- > AC & DC frame solenoids, DC tubular solenoids (standard, long-life & latching), laminated AC solenoids
- > Custom solenoids and coils optimized for valve actuation, circuit breakers and energy storage systems
- > Precision electromechanical relays for signal & power switching

ENERGY APPLICATIONS

Valve actuation in turbines, boilers and pipelines; power distribution and control; hydraulic and pneumatic systems; energy storage and battery switches; oil & gas downstream equipment.

REAL APPLICATION EXAMPLE

In a gas-fired power plant's turbine lubrication system, tubular solenoids control the oil flow valves to ensure proper lubrication and quick shutoff. Relays and time delays manage pump and motor switching for reliable operation.

FLEX-WELD

MOTION, FLOW & DATA CENTER CONTROL

Flex-Weld designs and fabricates OEM and custom metal bellows, expansion joints, braided hose assemblies and exhaust bellows. Our single- or multi-ply bellows constructed from stainless steel, Inconel, Monel, Hastelloy and titanium deliver exceptional cycle life and pressure containment. Expansion loops and joints absorb thermal expansion, seismic movement and vibration, protecting piping systems in power plants, solar fields, wind farms and large-scale data centers.

PRODUCTS

- > Metal bellows & assemblies (single- or multi-ply) with custom engineered design
- > Expansion joints & loops for thermal & seismic movement control
- > Braided metal hose assemblies for vibration isolation & fluid conveyance
- > Engineered exhaust bellows for high-temperature systems

ENERGY APPLICATIONS

Turbines & generators, compressor stations, pump & motor bases, boilers and heat exchangers, wind & solar structures, nuclear plant piping, waste treatment and water delivery systems.

REAL APPLICATION EXAMPLE

In a combined-cycle plant's steam piping, multi-ply expansion joints and braided hose assemblies absorb thermal expansion and vibration, preventing stress on pipe welds. Exhaust bellows installed on diesel generator stacks reduce vibration and thermal cycling.



WCT

SEALING & FLUID HANDLING

Western Consolidated Technologies (WCT) supplies high-performance PTFE, PEEK and elastomeric seals and gaskets for valves and fluid handling in demanding energy environments. Our durable products provide reliable sealing under extreme thermal and chemical conditions and reduce downtime in power generation, oil & gas and data center operations. Key products include ball valve seats, valve stem packing, butterfly valve seats, spring-energized PTFE seals, dynamic and static seals, O-rings, gaskets, lathe-cut rubber rings, guide bearings and back-up rings.

PRODUCTS

- > PTFE & PEEK ball valve seats, valve stem packing & butterfly valve seats
- > Spring-energized PTFE seals & dynamic/static seals
- > O-rings, gaskets, mechanical seals & lathe-cut rubber rings
- > Guide elements, bearings & backup rings for valves & actuators

ENERGY APPLICATIONS

Wellhead & production valves, pipeline connectors, compressor stations, refinery & petrochemical processing, heat exchangers, emissions control and safety isolation.

REAL APPLICATION EXAMPLE

In a compressor station, PTFE ball valve seats and spring-energized seals ensure leak-free operation under high pressure and temperature. Spiral wound gaskets maintain pressure integrity in heat exchanger flange connections and valve manifold systems.

AMT

HIGH-PERFORMANCE PLASTICS & MOLDING

Advanced Molding Technologies (AMT) transforms engineering-grade materials such as nylon, acetal, PBT, PPS and PEEK into precision components through injection molding, insert and over-molding. With more than 50 years of experience and AS9100 & ISO 9001 certification, AMT delivers tight-tolerance parts, rapid prototyping and scalable production for demanding applications. Our capabilities include tooling & mold fabrication, gas-assist and two-shot molding and value-added assembly.

PRODUCTS

- > Custom injection molded components for sensors, insulators & electrical housings
- > Insert & over-molded parts combining metal and plastic for structural support
- > High-performance plastics (nylon, acetal, PBT, PPS, PEEK) offering strength and thermal stability
- > Rapid prototyping & scalable production with AS9100 & ISO 9001 compliance

ENERGY APPLICATIONS

High-strength insulators, valve & pump components, coil forms, sensor housings, vibration dampers and support structures for renewable energy systems.

REAL APPLICATION EXAMPLE

Injection-molded nylon sensor housings protect temperature and vibration during pump control assemblies. Over-molded plastic and metal parts are used in wind turbine nacelles. Molded wear strips and guides support valve trim components in power plant turbines.



FLEX-WELD APPLICATION

DATA CENTER COOLING & POWER INFRASTRUCTURE

Data centers serve as the backbone of the global digital economy. Operating 24/7, these mission-critical facilities house computing, storage and networking equipment. Reliable mechanical infrastructure is essential to prevent catastrophic downtime.

Flex-Weld expansion joints relieve mechanical stress in long pipe runs, isolate vibration from pumps and chillers, maintain alignment during thermal fluctuations or seismic activity, and enhance uptime by reducing the risk of leaks and ruptures.

- > **Chilled water loops** — expansion joints manage length changes from temperature variations
- > **Pumps & chillers** — flexible connectors isolate vibration on suction and discharge sides
- > **Cooling distribution units (CDUs)** — connectors relieve stress on equipment nozzles
- > **Direct-to-chip cooling** — flexible hoses provide leak-free flow to high-density racks
- > **Backup generators** — expansion joints and exhaust bellows accommodate thermal expansion and vibration

REAL APPLICATION EXAMPLE

In a hyperscale data center's chilled water loop, Flex-Weld multi-ply expansion joints relieve thermal stress and maintain alignment across long piping runs. Braided hose assemblies on pumps and chillers isolate vibration that could damage servers. Exhaust bellows and connectors manage thermal expansion and vibration in backup generator piping, ensuring dependable standby power.



MISSION-CRITICAL COOLING INFRASTRUCTURE

Chilled water loops, CDUs & flexible piping systems

WORKING TOGETHER TO MOVE FORWARD

At Kelco, our divisions collaborate to deliver integrated solutions for fluid power, cooling and energy systems. Combining solenoids, relays, bellows, seals and molded components, we engineer complete assemblies that control flow, damp vibrations and maintain pressure integrity. Cross-divisional collaboration ensures correct material selection, precision tolerances and installation guidance, helping our customers minimize downtime and maximize efficiency.

For more information on how Kelco Industries can support your energy or data center project, contact us today or visit kelcoindustries.com. We provide engineering, technical support and on-time delivery so you can focus on powering and connecting the world.