

Engineered Components for UAV & Unmanned Aerospace Systems

Advanced actuation, environmental sealing, flexible metal routing, and precision molded solutions — purpose-built for defense and commercial unmanned platforms.

GUARDIAN ELECTRIC

ACTUATION & OPERATOR INTERFACE

Solenoid actuators, locking mechanisms, and pilot control systems.

FLEX-WELD

METAL & FLUID ROUTING

Flexible metal hoses, bellows, and hose assemblies for propulsion and fluid systems.

WCT

SEALING & PRECISION COMPONENTS

PTFE seals, gaskets, valve seats, and rotary lip seals for critical sealing applications.

AMT

MOLDED STRUCTURES & HOUSINGS

Aerospace-grade molded components and housings for avionics and structures.

— ABOUT KELCO INDUSTRIES

Built for UAV Programs. Not Just Aerospace.

Kelco Industries is a U.S.-based, multi-division manufacturer with deep expertise in electromechanical actuation, flexible metal systems, precision sealing, and aerospace-grade injection molding — the exact subsystems that make unmanned platforms reliable and scalable.

We engage at the design stage, support rapid prototype development, and scale with your program from low-rate to full-rate production — all within a single, qualified supplier relationship.

WHO THIS GUIDE IS FOR

- UAV OEMs & unmanned platform developers
- Aerospace & defense prime contractors
- Tier 1 subsystem & propulsion suppliers
- Payload and sensor system integrators
- Ground control station developers
- Autonomous systems companies

"One qualified supplier relationship covering actuation, sealing, flexible metal, and molded components — with the traceability and quality systems aerospace programs require."

PLATFORM APPLICATIONS

ISR · Tactical · VTOL · Long-Endurance · Loitering
Munitions · Maritime · Cargo

Guardian Electric

Actuation & operator
interface

Flex-Weld

Flexible metal & fluid
routing

WCT

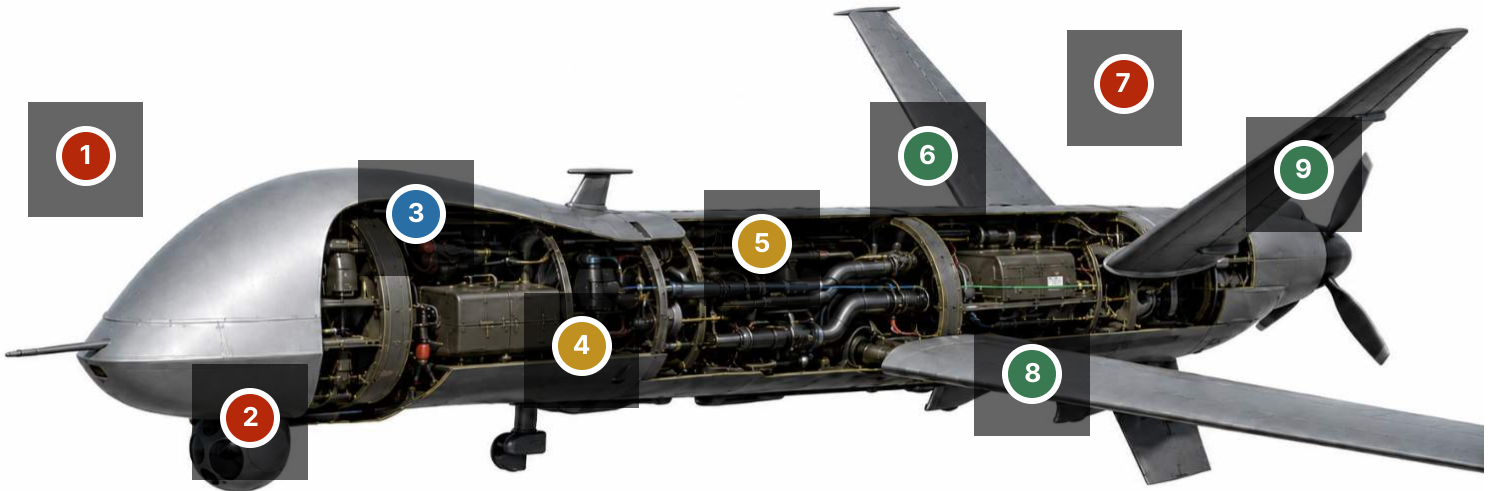
Precision sealing
solutions

AMT

Aerospace-grade
molded components

APPLICATION REFERENCE

Kelco Technologies Across a UAV Platform



1 Flight Control Switching & Actuation Precise motion control for critical flight functions.	2 Payload Release Mechanisms Secure locking and reliable payload deployment.	3 Metal Hoses & Assemblies Flexible conduits for fuel, air, and fluid transfer.	4 PTFE Seals & Gaskets High-performance sealing in extreme environments.	5 Valve Seats & Rotary Lip Seals Leak prevention in dynamic rotating applications.	6 Avionics Housings & Enclosures Protect sensitive electronics from vibration and EMI.	7 Control Surface Actuators Reliable actuation for aerodynamic control surfaces.	8 Structural Brackets & Components Lightweight, high-strength structural support.	9 Environmental Sealing Components Protection against moisture, dust, and corrosion.
								

● GUARDIAN ELECTRIC
● FLEX-WELD
● WCT
● AMT

Every Component. Every Mission.

Kelco products are engineered to perform in the most demanding conditions — across every critical system in modern UAV platforms.

- ✓ Proven performance in harsh aerospace environments
- ✓ Integrated into all major UAV system categories
- ✓ Built for mission reliability and long-term durability



DESIGNED FOR MISSION RELIABILITY · ENGINEERED FOR EXTREME ENVIRONMENTS · MADE IN THE USA

ENGINEERING SOLUTIONS FOR UAV PROGRAMS

Every challenge on the UAV platform — Kelco has a solution.

SWaP Optimization

Size, weight, and power constraints demand compact components. We engineer for minimum mass without sacrificing mission performance.

GUARDIAN ELECTRIC · AMT

Vibration & Shock

Propulsion vibration and rotor wash degrade components over time. Flex-Weld assemblies absorb vibration and extend system service life.

FLEX-WELD

Thermal Cycling

Propulsion and electronics bays face extreme temperature swings. Our bellows, seals, and housings are rated across the full thermal envelope.

FLEX-WELD · WCT

Fuel & Fluid Sealing

Leaks in fuel, hydraulic, or lubrication systems are mission-critical failures. WCT seals provide chemically resistant, zero-leak performance.

WCT

Environmental Durability

UAVs operate through dust, salt spray, rain, and humidity extremes. We provide environmental sealing for electronics, avionics, and payload bays.

WCT · AMT

Payload Release Reliability

Payload release must work on every mission cycle. Guardian Electric solenoids deliver high-force, high-cycle actuation with fail-safe configurations.

GUARDIAN ELECTRIC

Compact Actuation

Tight airframe envelopes leave little room for large actuators. Our solenoid designs deliver high force-to-size ratios optimized for UAV packaging.

GUARDIAN ELECTRIC

Supplier Consolidation

Managing multiple specialist suppliers slows qualification and increases risk. Kelco covers four critical component categories under one quality system.

ALL DIVISIONS

Rapid Program Scaling

UAV programs move fast — from low-rate prototype to full-rate production. We support every stage without re-qualifying suppliers or rebuilding supply chains.

ALL DIVISIONS

— FOUR DIVISIONS. ONE AEROSPACE STANDARD.

Engineered solutions across the full UAV component stack.

Solenoids · Control Grips · Mil-Spec Switches
Linear & rotary solenoids, operator interface systems, flight-control switches

DIVISION 01

Guardian Electric

ELECTROMECHANICAL ACTUATION & OPERATOR INTERFACE

- Compact solenoid actuation for payload release, valve control, and locking
- Linear & rotary solenoids — push-pull, latching, and high-force designs
- Mil-spec control grips and GCS operator interface systems
- Flight switches, relays, and electromechanical assemblies

High force-to-size ratio. Engineered for high-cycle, mission-critical UAV operation.

Hose Assemblies · Bellows · Expansion Joints
Flexible metal hose, multi-ply stainless bellows, vibration isolation assemblies

DIVISION 02

Flex-Weld

FLEXIBLE METAL & THERMAL-FLUID ROUTING

- Thermal and fluid routing solutions for propulsion, fuel, and exhaust systems
- Flexible metal hose assemblies for vibration isolation and tight routing
- Multi-ply stainless bellows for thermal expansion and shock absorption
- Custom braided and corrugated hose — rated to 430°C and 138 bar

Full vibration, thermal, and acoustic isolation for UAV propulsion and fluid systems.

PTFE Seals · Gaskets · Valve Seats · Rings
Custom PTFE seals, engineered gaskets, ball-valve seats, rotary lip seals

DIVISION 03

WCT

ADVANCED SEALING SOLUTIONS

- Environmental sealing solutions for UAV fuel, hydraulic, and electronics systems
- PTFE seals and engineered gaskets — chemically resistant, leak-free performance
- Rotary lip seals for bearing and shaft sealing in propulsion systems
- Ball-valve seats and piston rings for fluid control and propulsion

Chemical resistance, low friction, proven performance across extreme temperature and pressure ranges.

Housings · Insert-Molded Assemblies · Structural Parts

Injection-molded UAV enclosures, overmolded assemblies, lightweight structural components

DIVISION 04

AMT

PRECISION INJECTION MOLDING

- Lightweight molded components for avionics, sensors, and UAV structures
- Custom injection-molded housings and enclosures — aerospace-grade polymers
- Insert molding and two-shot overmolded assemblies for complex geometry
- Rapid prototyping and short-run tooling for early-stage UAV program development

AS9100D / ITAR certified. Prototype tooling through full-volume production.

— FROM CONCEPT TO FULL-RATE
PRODUCTION

Built for the speed unmanned programs require.

Kelco supports UAV manufacturers at every program stage — engaging during design, supporting rapid prototyping, and scaling to full-rate production within a single, qualified supplier relationship.

Our team provides design review feedback, material guidance, first-article support, and lifecycle supply — so you qualify once and scale with confidence.

Attritable · Tactical ISR · Long-
Endurance MALE · VTOL ·
Autonomous Systems

01 Concept & Requirements

Early engagement on design requirements, subsystem interfaces, material selection, and SWaP constraints. We help you design for manufacturability from day one.

02 Rapid Prototyping

Short-run prototypes and rapid tooling across all four divisions. Fast iterations to validate form, fit, and function before committing to production tooling.

03 Test & Validation

Material certification, pressure and leak testing, dimensional verification, and performance validation against your program specification.

04 First Article & Qualification

Complete first-article inspection, engineering documentation package, and supplier qualification support for program review and approval.

05 Low-Rate Initial Production

Small-batch production with full traceability, lot-level documentation, and process controls ready for program audit.

06 Full-Rate Production & Lifecycle Support

Scale to high volume without changing suppliers. SPC controls, continuous improvement, and long-term lifecycle supply for programs.

**One qualified supplier —
from prototype to full-rate
production.**

ACROSS ALL FOUR
KELCO DIVISIONS

CUSTOM-ENGINEERED UAV COMPONENTS

Let's build your next unmanned platform together.

Whether you're developing a new UAV platform, scaling an existing program, or consolidating your component supply chain — Kelco Industries is ready to support your program from concept through full-rate production.

WEBSITE

kelcoind.com

Division pages, capability details, and full product specifications.

PROGRAM INQUIRIES

customerservice@kelcoind.com

RFQs, engineering review requests, and prototype program inquiries.

MANUFACTURING

U.S.-Based Facilities

AS9100D · ISO 9001 · ITAR
Registered · Prototype to Full-Rate
Production

HOW TO GET STARTED

01 Share Your Requirements

Send your program summary, component specs, or RFQ to our customer service team.

02 Engineering Review

Our engineering team reviews your requirements and identifies which divisions can support your platform.

03 First Article & Qualification

We support FAIR, PPAP, and qualification documentation from prototype through full-rate production.

Guardian Electric

Actuation · Operator
Interface · GCS

Flex-Weld

Flexible Metal · Fluid
Routing · Bellows

WCT

PTFE Sealing · Gaskets
· Valve Seats

AMT

Injection Molding ·
Housings · Structures