

OUR SERVICES

MECHANICAL ENGINEERING

MANUFACTURING
PEACE OF MINDSM

AXIS YOUR FORWARD-THINKING MECHANICAL ADVANTAGE

We deliver precision mechanical engineering solutions — from concept design to manufacturing support — ensuring **efficiency, reliability, and performance.**

Mechanical Core Capabilities

- **Mechanical Design & Drafting** – CAD modeling, AutoCAD 2D, AutoCAD Inventor3D, drawings, GD&T
- **Model Simulation: Finite Element Analysis (FEA)** – Virtual testing of mechanical systems using CAD and FEA to evaluate stress, thermal behavior, motion, and system performance before production
- **Engineering Calculations** – Analytical load, stress, thermal, fluid, and dynamic analyses to ensure safe, reliable, and compliant designs.
- **Sequence of Operations** – step-by-step definition of machine and process functions for safe, efficient, and reliable performance.
- **Cycle Time Analysis** – Tracking and visualizing process times to identify bottlenecks, improve throughput, and optimize production efficiency
- **Prototyping & Testing** – Rapid prototyping, validation, and field testing
- **Product Development** – Concept to production support
- **Automation & Machinery Design** – Custom machines, jigs, and fixtures
- **Material Selection & Optimization** – Metals, plastics, composites
- **Manufacturing Support** – Tolerancing, documentation, vendor collaboration
- **3D Laser Scanning** & photometry for plant layouts and machinery

Mechanical System Expertise

- Conveyor Systems: Small to Large
- Metal Working
- Material Handling
- Resistance Welding
- Tooling
- Hydraulics
- Pneumatics
- Robotic Stations with EOAT
- Mechanical Structures

Why Choose Axis?

Expertise That Goes Deep

We offer reliable, cost-effective designs tailored to your requirements. Our engineers have proven expertise in complex mechanical systems.

Agile, Responsive Support

Unlike larger firms, Axis Engineering moves fast. We have reduced time-to-market through integrated services. We adapt quickly to your needs, provide hands-on support, and deliver solutions without red tape or delays.

Industries Served

- Food & Beverage
- Automotive & Tier 1 Suppliers
- Specialty Equipment & OEM
- Printing & Packaging
- Manufacturing
- Surface Mining
- Chemical
- Plastics
- And Many More

Certifications

- Certified professional engineers (PE's) on staff
- Certificate of Authorization (COA), State Registered Engineering Firm in Ohio.



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AXIS
ENGINEERING GROUP, LLC
manufacturing peace of mind