

HIGH-DEFINITION CUTTING

The Kollmorgen Advantage



Laser, waterjet and plasma cutting machines can have very different applications, but they all have one thing in common, they depend on precisely controlled motion. To achieve next-generation accuracy, efficiency and productivity, machine builders need to solve many problems:

- Positioning heavy equipment and workpieces quickly and accurately.
- Synchronizing gantry arms to orient and move the cutting head under precise control.
- Minimizing the effect of motor cogging on cut quality.
- Compensating for gravity when tuning vertical loads.

- Reducing machine weight and footprint.
- Ensuring operator safety.

These and other challenges require advanced motion technology and expertise. With Kollmorgen as your motion partner, your machines can be more.

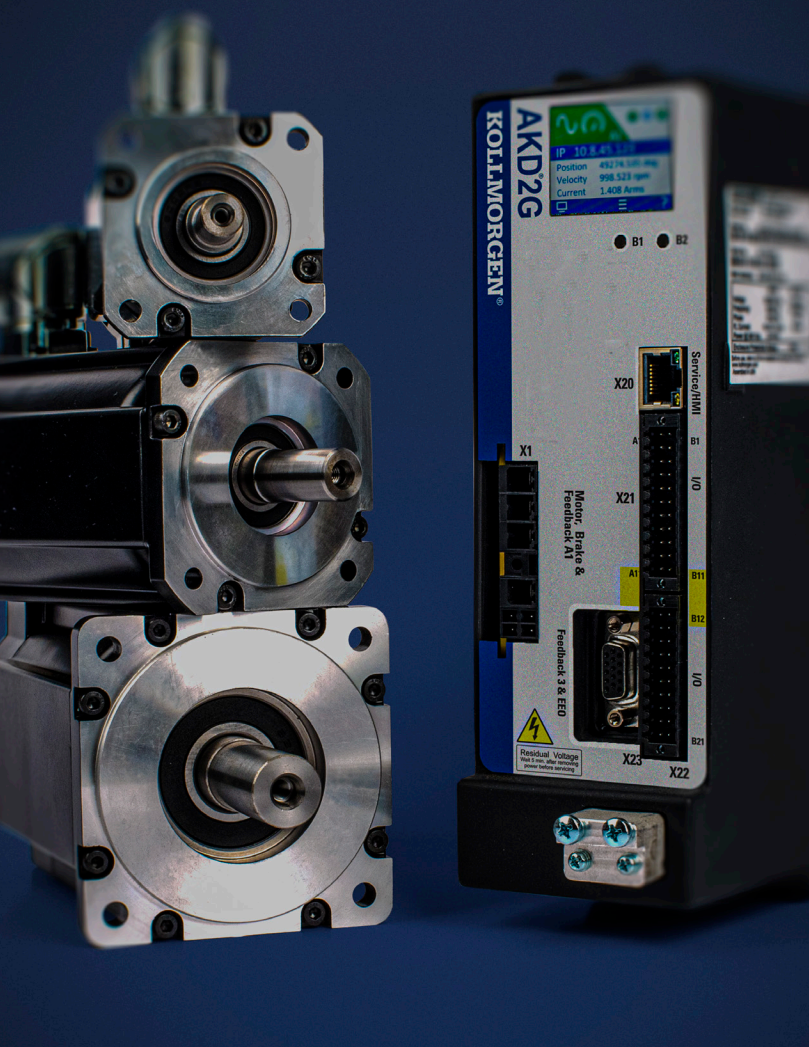
More ambitious. Kollmorgen solutions provide enhanced power and torque density, superior control and greater design flexibility, so you can set your machine apart in a competitive marketplace.

More capable. Kollmorgen's advanced design tools, engineer-to-engineer collaboration, and local training and support help ensure that you deliver your machine exactly as envisioned.

More confident. Kollmorgen delivers the highest-quality products—including co-engineered modifications with rapid prototyping—in the quantities you need, virtually anywhere in the world.

Whether you're designing a new, next-generation machine or upgrading an existing machine, Kollmorgen provides the advanced motion technologies, co-engineering capabilities and metal forming expertise to help you achieve your goals. Confident, capable, ambitious: engineer the exceptional with Kollmorgen.

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SEAMLESS DIGITAL CONTROLLER INTEGRATION

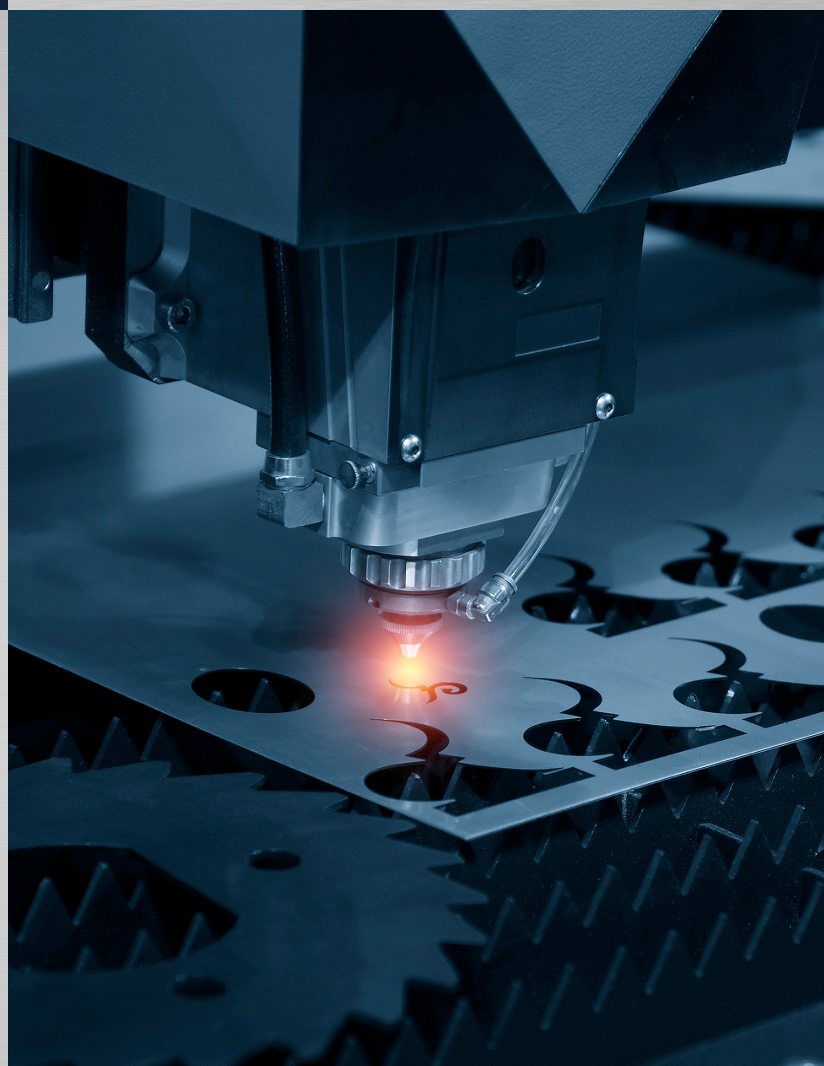
Kollmorgen drives provide simple integration with industry-standard controllers. They work seamlessly using the EtherCAT real-time fieldbus or a variety of alternative real-time bus architectures delivering unmatched reliability, powerful embedded capabilities and customizability to suit virtually any cutting application. Real-time bus connectivity provides:

- Simple, quick wiring with minimal risk of miswiring or wiring failures.
- Faster startup and easier tuning for reliable, repeatable motion.
- Flexible drive placement and superior noise immunity in high-EMI/RFI environments.

SUPERIOR CUT QUALITY

Laser, waterjet and plasma cutting machines all depend on the timing and precision of the motion to achieve the highest-quality cut. While lasers have traditionally offered the highest cut quality and complexity, next-generation plasma and waterjet machines can now offer near-laser capabilities. Kollmorgen provides:

- A vast selection of servo motors in standard rotary as well as housed or frameless direct drive rotary and linear designs, with co-engineered modifications to serve any need.
- A cogging-compensation algorithm that reduces cogging by up to 90% for outstanding smoothness and precise cuts.
- The ability to maximize and match bandwidth across multiple axes for consistent, accurate motion.
- A gantry mode algorithm to simplify tuning motion for gantry arms that must move in synchrony.





INCREASED SAFETY

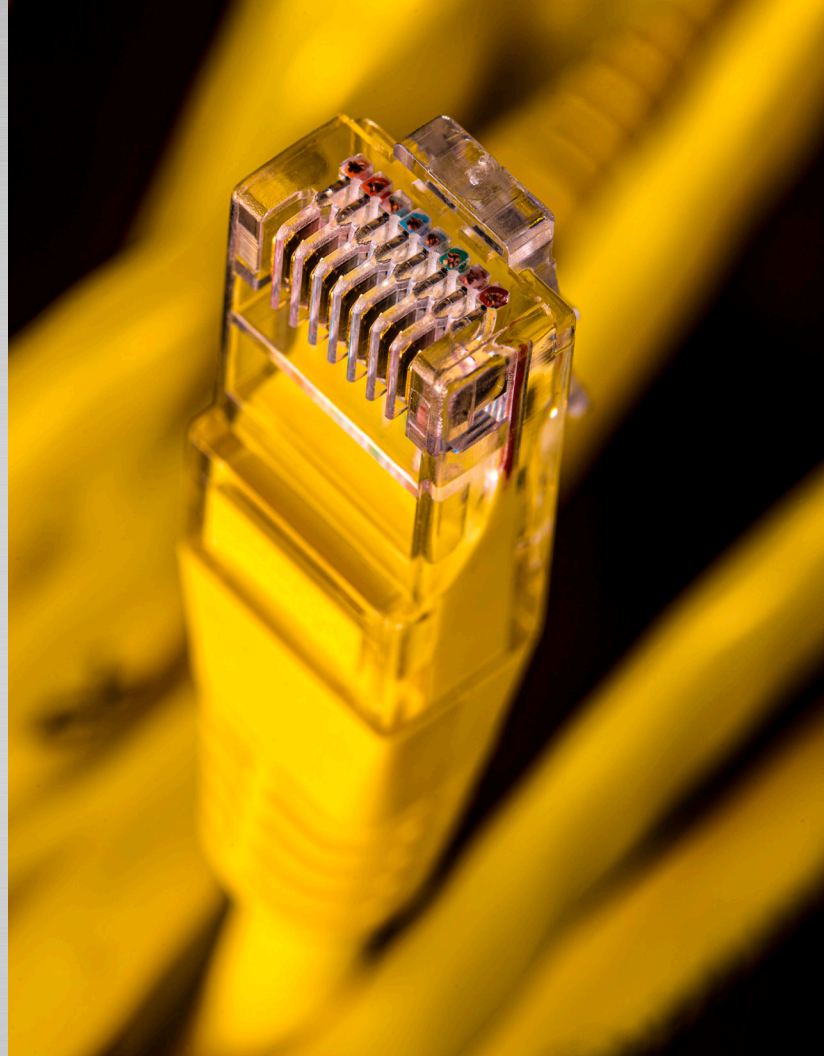
Kollmorgen offers drives and motors with integrated safety functionality that can enhance operator protection while improving productivity by minimizing the need to shut down machines. Kollmorgen provides:

- A robust set of SafeMotion functions including controlled Safe Stop options and many more.
- Custom positive and negative motion limits around a defined set point.
- Autotuner and Bode plot tuner with built-in gravity offset to safely and accurately tune vertical loads.
- Stainless steel, washdown, food-grade and explosion proof motors for use in food-cutting, hazardous location and other safety-first applications.

EASY ETHERCAT TRANSITION

EtherCAT is the most advanced fieldbus for fast, real-time performance, with response times on the order of 0.1 ms. Kollmorgen supports EtherCAT natively for use with Hypertherm and other controllers. And we offer embedded tools that make EtherCAT easy to implement and troubleshoot for OEMs that prefer to develop a modern, digital platform using their own in-house team. EtherCAT provides:

- Vastly improved precision and reliability for multi-axis digital control while allowing drives to be mounted anywhere for optimized machine design.
- Simplified, more compact and reliable wiring, with one click-in cable per drive compared to 10 or more wires that must be routed and terminated for each axis when using an analog controller.
- No-compromise digital motion performance.



For Answers, Partner With Kollmorgen

We know the specialized requirements of each metal forming application, and we provide the engineering confidence to help you achieve the best motion performance. Whether you're upgrading an existing machine or designing the next-generation machine that will define the state of the art for your customers, we can help you engineer the exceptional.

Ready to discover all your machine is capable of?
Visit www.kollmorgen.com/cutting-machines

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