

MATERIAL FORMING APPLICATIONS

The Kollmorgen Advantage

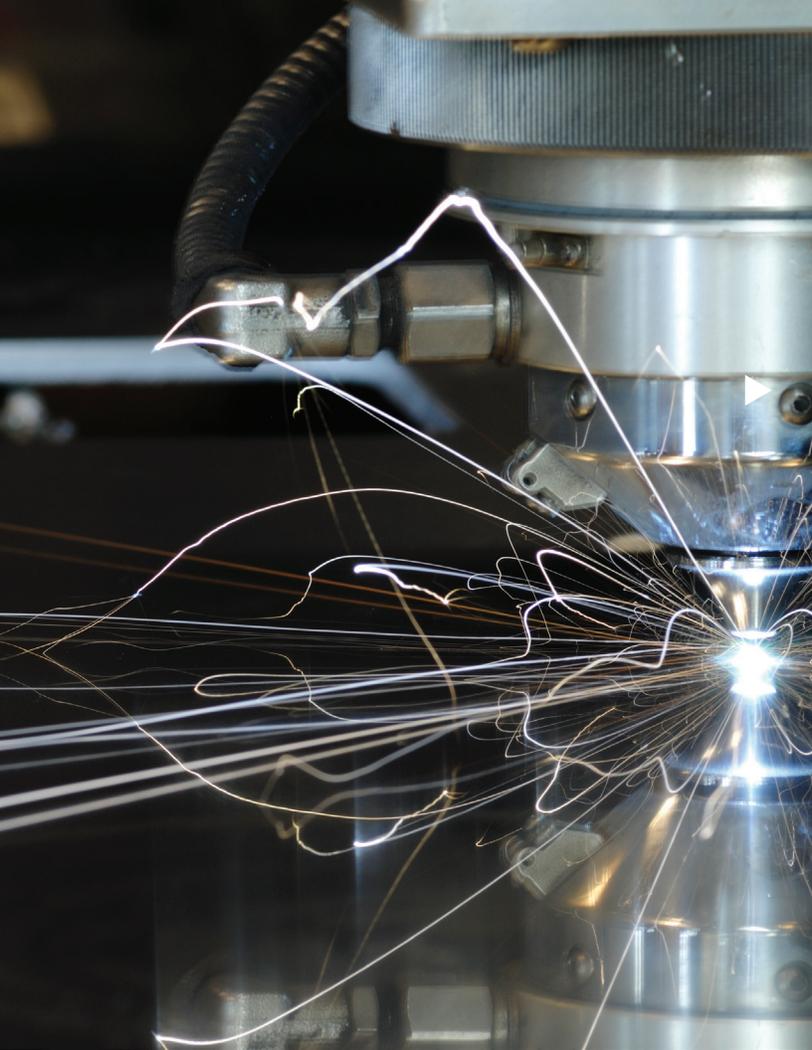


Advanced material forming processes are defined by quality, repeatability and throughput. These requirements place unique demands on the performance of the motion systems that drive cutting, bending, braking and other material forming machines.

Perfect cuts, bends and perforations depend on optimum power and torque applied at high precision. Innovative design capabilities depend on highly dynamic motion. Throughput depends on high speed under full control. Profitability depends on smaller, lighter, more efficient machines that are easier to design, build, tune, commission and maintain.

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

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TOOL-LESS CUTTING

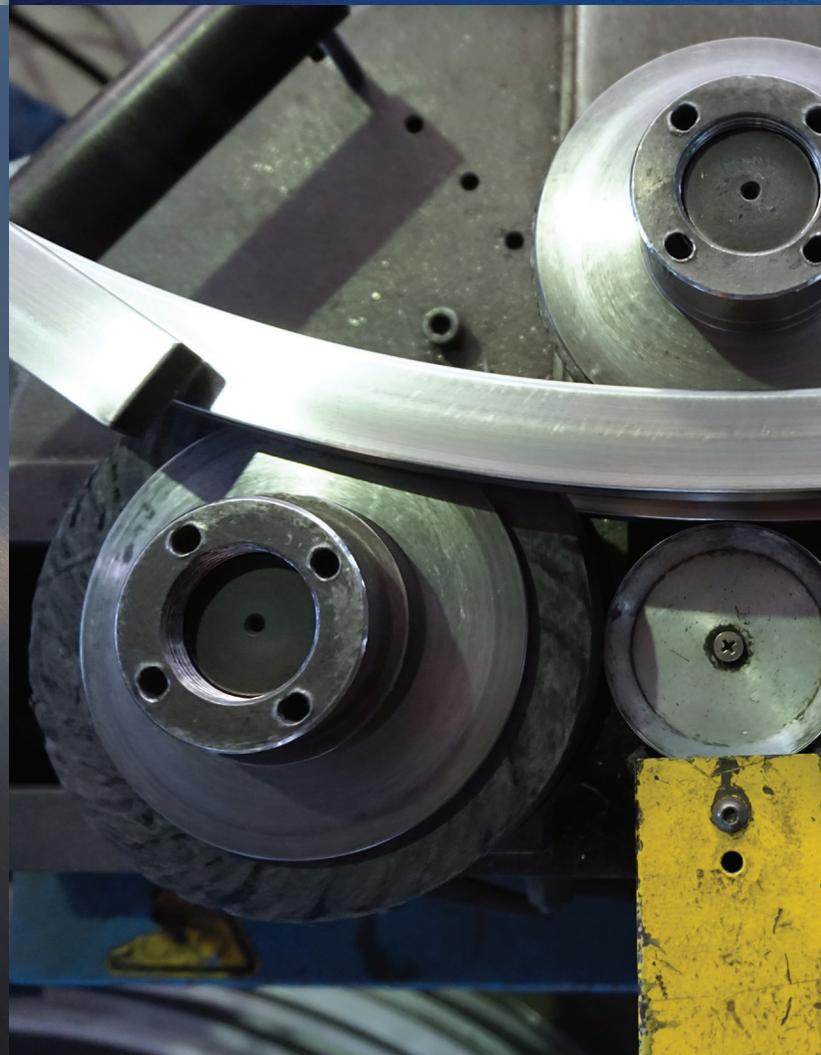
The extreme high precision of laser, the speed and efficiency of plasma, the cold-cutting versatility of waterjet: all of these cutting technologies depend on motion performance designed and tuned to the specific task. Manufacturers are looking for machines that cut more precisely, at higher speeds, with motion tuned to their exacting application requirements. Kollmorgen provides:

- High-performance servo motors including direct drive, linear, frameless, explosion proof, washdown, food-grade and other options.
- The next-generation 2G Motion System with motors that deliver greater power and torque density with no increase in size, plus the ability to reduce the drive panel space and implement single cable connectivity.
- The 2G system also features gantry functionality, enabling machine builders to achieve the next level of motion performance.
- Seamless integration with industry-standard controllers as well as custom controllers.
- Drives with advanced SafeMotion Monitor (SMM) options built-in to minimize downtime and increase machine safety.

BENDING

Whether working with conduit, rebar, structural tubing, sheet metal or other materials, bending machines require finesse in positioning the material as well as the clamps, dies and mandrels used to execute each bend. Perfect motion is essential for creating complex, multi-bend parts without damaging materials even while maintaining high production throughput. Kollmorgen provides:

- Custom MechaWare control algorithms and industry-leading velocity and position loops that provide optimum performance for the most difficult bends.
- AKD2G dual-axis drives that reduce panel space and AKM2G motors with up to 30% greater torque deliver the performance you need in a lighter, more compact package.
- SafeMotion Monitor (SMM) functions to minimize downtime and increase machine safety.
- Our acclaimed WorkBench graphical user interface for easy set-up and programming.





STAMPING + PRESS BRAKES

Sophisticated press brakes and stamping machines give fabricators the ability to create precise, often-complex forms. The next generation of electric machines and hydraulic conversions can achieve increased speed, stroke optimization and throughput using precise, powerful, efficient servo systems. Kollmorgen provides:

- Motion solutions and expertise to automate backgauging in the same footprint as a manual backgauging system.
- An exceptionally broad range of high-precision motors that enable a greater range of backgauge motion in a more compact design.
- High-torque, high-power housed and frameless motors that deliver efficient, controlled ram acceleration to create quick, repeatable bends.
- Seamless controller integration and simple, precise motion tuning for speed, efficiency and reliability even in complex, multi-axis machines.

MACHINE TOOLS

Gear grinding tools, lathes and other high-speed, high-precision machine tools require perfect motion to fabricate perfect parts. To maximize precision, speed and tool life, these machines require high-torque motors, high-resolution feedback and total motion stability—with no positioning drift, backlash, chatter or compliance. Kollmorgen provides:

- Direct drive technology for the greatest possible precision and repeatability, with no mechanical transmission components.
- Frameless and cartridge motors that mount directly in the head to minimize machine size, weight and maintenance.
- Servo drives and motors perfectly matched for unrivaled power density and control.
- The 2G Motion System provides built-in optimization and tuning tools, supports a wide range of feedback & motor technologies and MechaWare models such as position correction tables to handle all machine stability challenges.



For Answers, Partner With Kollmorgen

We know the specialized requirements of each material forming application, and we provide the engineering confidence to help you achieve the best motion performance, with our design tools, co-engineering capabilities and a full selection of integrated components to achieve virtually any design specification. 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/material-forming

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