Mazak
OPTONICS CORP.

BUILT FOR WHAT'S NEXT

LASER & AUTOMATION TECHNOLOGY

FLAT SHEET

When it comes to 2D laser machines, Mazak offers a wide range of speeds and sizes. Many of Mazak's 2D laser-cutting systems integrate intelligent machine functions that improve ease of operation and machine efficiency. Whether in a high-volume production environment or a job shop requiring flexibility, Mazak provides cost-effective solutions to meet a range of fabricator needs.

OPTIPLEX NEO

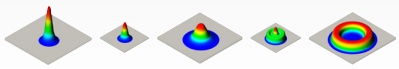
> OPTIPLEX NEO

LEARN MORE

OPTIPLEX 3015 NEO

OPTIPLEX 4220 NEO

VARIABLE BEAM TECHNOLOGY



Built for High-Power Cutting with Maximum Control

The OPTIPLEX NEO revolutionizes precision cutting with advanced technology, offering maximum control over beam shape and diameter. It is available in power levels from 4kW to 20kW and sizes 3015 or 4220. NEO features Variable Beam fiber laser technology for high-speed, precise cutting across various materials. Large front and side access doors enhance material loading and workflow efficiency, while the intuitive MAZATROL SmoothLx CNC control with a 21.5" touch panel and dual monitors ensures smooth operations. Standard Intelligent Functions like the Nozzle Changer and Nozzle Centering Camera optimize performance, making the OPTIPLEX NEO a leader in laser cutting productivity and precision.

Performance Advantages

- Beam shaping technology delivers optimal thick and thin metal cutting, higher cutting speed, superior edge quality, and improved piercing time.
- Large front and side access doors minimize restrictions when loading/unloading material.
- MAZATROL SmoothLx control features a widescreen display and touch panel for ease of operation.
- Rotating CNC display provides flexibility to work at the front or side of the machine.
- Intelligent functions support operators by ensuring optimal laser-cutting performance.
- Optional Camera Assisted Part Nesting quickly and easily processes additional parts on demand, without delay.

OPTIPLEX Ez

> OPTIPLEX Ez

LEARN MORE

OPTIPLEX 3015 Ez

OPTIPLEX 4220 Ez

Built for Exceptional Value While Maintaining Cut Quality

Mazak's OPTIPLEX Ez is a precision-engineered, affordable 2D laser metal-cutting machine designed for first-time buyers. Available in 4kW, 6kW and 8kW power ranges and 3015 and 4220 sizes, it delivers optimal part quality for thin to medium thickness materials. The machine features large front and side doors for easy material handling, and the intuitive MAZATROL SmoothLx CNC system with a 21.5-inch touchscreen simplifies operations for new users. Intelligent features like the Automatic Nozzle Changer and Nozzle Centering Camera enhance workflow efficiency and ensure consistent, precise cutting performance, providing exceptional value without compromising on quality or support.

Performance Advantages

- Affordable laser processing solution that is ideal for entry-level users.
- Large front and side access doors offer easy accessibility, minimize restrictions when loading/unloading material.
- Next generation MAZATROL SmoothLx control features a widescreen display and touch panel for ease of operation.
- Rotating CNC display provides flexibility to work at the front or side of the machine.
- Intelligent functions support operators by ensuring optimal laser-cutting performance.

BUILT FOR WHAT'S NEXT

NEW OPTIPLEX HP

> OPTIPLEX HP

LEARN MORE

Built for Cutting Precision at Any Thickness

The OPTIPLEX HP takes high-performance cutting to the next level with a newly engineered 30kW solid-state generator and a proprietary cutting head built for durability and unique cutting functionality. Mazak's exclusive unique new cutting process defined as "GrandCut," enabled by innovative nozzle technology, an extended focal range, and programmable spot size—allowing clean, high-quality cuts beyond the traditional threshold of 25mm (1.00"), and easily moves into the 50mm (2.00") range and above. In addition to the expanded range of thick plate cutting, the system increases cut speeds and processing with gas mixing technology, all controlled by the powerful SmoothLx CNC control. Recognizing the increased speed and cutting capability, Mazak has reinforced internal cut protection and added new process monitoring systems to provide real-time diagnostics and consumable tracking and maintenance. The OPTIPLEX HP redefines what's possible in new levels of high-power laser cutting.

Performance Advantages

> Solid-state generator and proprietary cutting head
> Large front and side access doors minimize restrictions when loading/unloading material.
> MAZATROL SmoothLx control features a widescreen display and touch panel for ease of operation.
> Rotating CNC display provides flexibility to work at the front or side of the machine.
> Innovative nozzle technology allows for GrandCut unique cutting.
> Reinforced internal cut protection.
> Monitoring system to provide real-time diagnostics and tracking.

NEW OPTIPLEX BEVEL

> OPTIPLEX BEVEL

LEARN MORE

Built for Cutting at Any Angle

Building on the success of the OPTIPLEX series, the new OPTIPLEX 4020 Bevel was developed to meet the need for precise bevel cutting on thick materials for weld prep and fitment. The machine features a multi-axis articulating head with both A and B axes that allows for cutting angles up to 45 degrees. The new SmoothBevel control simplifies part geometry detection and lets operators choose from a variety of bevel profiles, such as K, X, and Y. Engineered for heavy plate industries like mining, construction, and agriculture, the machine offers the durability needed for thick plate cutting while maintaining high accuracy cut parts. Its proprietary 20kW SmoothCut generator and laser head delivers straighter, more perpendicular cuts with smoother face edge finishes. Combining bevel cutting capabilities with the proven performance of the OPTIPLEX series, the 4020 Bevel is an industry leader in its class.

Performance Advantages

> Multi-axis articulating 20kW SmoothCut generator and laser head with both A and B cutting up to 45 degrees.
> MAZATROL SmoothBevel control features a widescreen display and touch panel for ease of operation.
> Specialized CNC CAD/CAM, SmoothBevel CAM, simplifies part geometry and offers a variety of bevel profiles such as K, X and Y.
> Rotating CNC display provides flexibility to work at the front or side of the machine.
> Enhanced base protection.
> Large front and side access doors minimize restrictions when loading/unloading material.

TUBE & PIPE

The development of tube & pipe laser-cutting machines has significantly reduced the processing time for many applications that are cut with traditional technologies. Multi axes, including a rotary tube chuck, enable laser-cutting for a wide range of applications including structural shapes, tubes, bevel cutting and other high-value laser cut parts. Many of Mazak's laser-cutting systems integrate automated intelligent machine functions that improve machine operation and efficiency.

FT-150 NEO

> FT-150

LEARN MORE

Built for Small to Medium Diameter Tube-Cutting Production

The FT-150 NEO is designed for high-speed cutting and reduced non-cutting processes to improve cycle times, resulting in high productivity and high throughput for small to medium diameter tube production. This fiber tube laser machine features a unique design and a proprietary agile U-Axis to enhance speed and productivity. The SmoothTUBE control with its large, double-monitor adds optimized functionality and ease for tube processing. The machine utilizes advanced technologies and optional features to streamline and automate laser-cutting tube production processes.

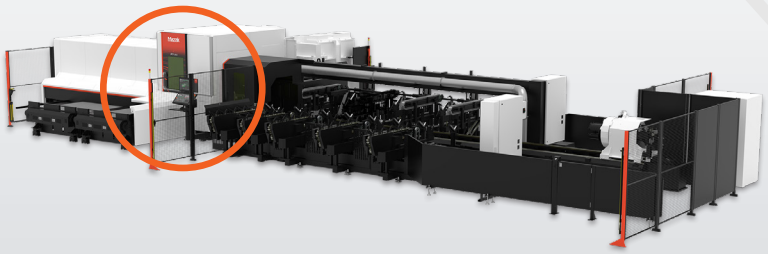
Performance Advantages

- Proprietary U-Axis enables impressive cutting speeds and superior part accuracy through a wide range of applications.
- Utilizes a 2.5D cutting head with focus detection. The programmable angle of the B-Axis enables bevel cutting of the material and improves welding, multi-tube assembly, fit and finish.
- SmoothTUBE control adds optimized functionality and ease for tube processing.
- Equipped with a standard 6.5 meter bundle loader.
- Various options available include: extrusion tapping, spatter guards, and weld seam detection camera.

NEW FT-250

> FT-250

LEARN MORE



Built for Flexible Tube Cutting

Mazak's NEW FT-250 6kW is a versatile tube laser that was built on the successes of the FT-150 NEO. Designed to address the evolving market demands, the FT-250 takes productivity to the next level with machining capabilities, reliability and ease of operation. The FT-250 provides a high-speed precision centering system, dual motion units for high-speed cutting and machining functions, SmoothTUBE intuitive control with dual monitors, quick accessibility to the processing area and chucks, along with other optional functions that enable high-precision processing for a wide range of workpiece shapes in both large and small batch sizes.

Performance Advantages

- Proprietary U-Axis enables impressive cutting speeds and superior part accuracy through a wide range of applications.
- Utilizes a 2.5D cutting head with focus detection. The programmable angle of the B-Axis enables bevel cutting of the material and improves welding, multi-tube assembly, fit and finish.
- SmoothTUBE control adds optimized functionality and ease for tube processing.
- Equipped with a standard 6.5 meter bundle loader or versatile loader.
- Various options available include: extrusion tapping, spatter guards, and weld seam detection camera.

Mazak's SmoothTUBE CNC Control and TubeDx Software streamline and simplify tube fabrication from start to finish. SmoothTUBE offers intuitive programming, real-time monitoring, and seamless integration. Mazak's TubeDx provides powerful offline programming and CAD import capabilities, making it easy to generate complex tube and pipe components.

Together, these systems enhance productivity, reduce set-up time and ensure consistent, high-quality results for the most intricate tube-cutting applications.

FG-400 NEO

> FG-400 NEO

LEARN MORE

Built for Cutting of Large Tube, Pipe, and Structural Material

The enhanced FG-400 NEO is a 5kW machine designed for automatic and continuous 3D laser cutting of tubes, pipes, and structural materials, featuring advanced technology that enhances productivity and efficiency over conventional systems. The machine includes a proprietary 3D cutting head for greater flexibility and a wider range of applications, reducing secondary processing time and achieving high accuracy. The machine offers automatic adjustable beam shape and diameter for better control. Beam shaping technology ensures precise power density concentration. The SmoothTUBE control with its large, double-monitor adds optimized functionality and ease for tube processing. Additionally, a four-chuck work support system prevents material distortion, enabling accurate cutting of heavier materials with larger diameters and lengths.

Performance Advantages

- Beam shape/diameter control delivers optimal laser-cutting performance of various materials and thicknesses.
- Proprietary 3D cutting head maximizes flexibility and range of movement which expands the range of applications, reducing time needed for secondary processes.
- SmoothTUBE control adds optimized functionality and ease for tube processing.
- Four-chuck work support system prevents material distortion and enables high-accuracy cutting of heavier material with larger diameters and lengths.
- Reduces machine set-up time, production lead time with fewer operators required.
- Reduces the number of machines and fixtures needed, which reduces floor space requirements.
- Advanced technology provides efficient processing of complex features and highly reflective material, such as copper and brass.

FG-220

> FG-220

LEARN MORE

Built for Expanding Application Possibilities

The FG-220 utilizes solid state laser technology and a rugged four-chuck construction to offer high precision and flexibility for a wide range of applications, including cutting various shapes of tubes and pipes as well as processing I and H beams and angle iron. Designed for rugged performance and precision 3D laser cutting, the FG-220's cast frame and four-chuck work support system ensure greater rigidity and accommodate heavier, larger, and longer materials. Its precision 3D cutting capabilities reduce secondary processing time and feature a 6-axis laser with automated load/unload functions for handling mill-length materials. The machine can cut any desired angle for weld prep and achieve high accuracy for easy assembly fit-up. Mazak's proprietary 3D cutting head enhances flexibility and range of movement, expanding application possibilities.

Performance Advantages

- Multi-axis capabilities enable fabricators to cut a much wider range of structural material not possible on 2D configurations.
- Featuring a high precision 6-axis laser that cuts round, square, rectangular, triangular, I and H beams, C-channel, angle iron and other user-defined shapes.
- Cut at any desired angle for weld prep, plus achieve the highest accuracy for easy fit-up assemblies.
- Optional productivity enhancements include tapping unit, touch probe, and seam detection.

AUTOMATION

Mazak automation systems are designed to maximize productivity, reduce labor costs, and ensure consistent, high-quality output in laser-cutting operations. By streamlining material handling, part sorting, and machine utilization, these systems significantly increase throughput while minimizing downtime. Whether you're running high-volume production or seeking lights-out manufacturing capabilities, our automation offers the reliability, flexibility, and smart integration needed to stay competitive in today's fast-paced fabrication environment.

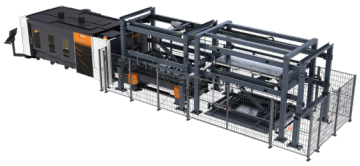
C-SERIES
Compact and simple load/unload for narrow footprint

K-SERIES
Multiple tower solution for single machine with compact footprint

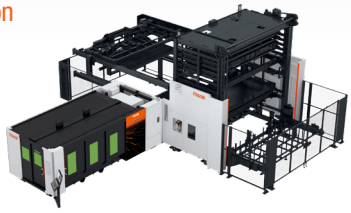
M-SERIES
Expandable multiple machine solution for high productivity

LASER FLEX
High throughput automation system for production environments

LASER FLEX LINE
Multiple towers can be integrated with laser machines as storage and retrieval systems

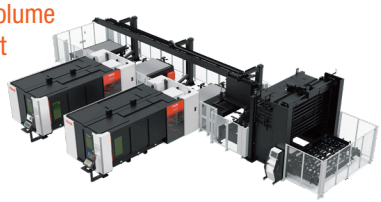


QUICK CELL
Compact single machine automation

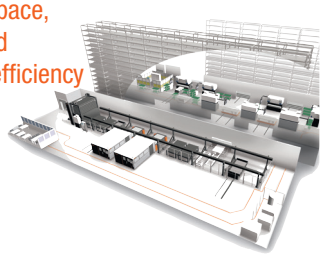


EZ COMPACT
2D expandable automation that maximizes space

EXTENSIBLE MANUFACTURING CELL
Rugged linear manufacturing system for high-volume throughput



AUTOMATED STORAGE/RETRIEVAL
Maximizes space, flexibility, and operational efficiency



DISCOVER MORE ABOUT MAZAK'S AUTOMATION SOLUTIONS

SMART CELL

The robotic sorting system utilizes a 6-axis industrial robot and an innovative design to deliver high performance for fabrication job shops and production environments. The base design is ruggedly constructed and very compact, while providing modular integration in a wide range of configurations. Smart Cell incorporates multiple customizable magnetic or suction cup gripper options for sorting laser-cut parts, loading raw material, and removing remnant material. Suits different types of applications for unattended production and can be integrated with other compact automation systems from Mazak.

NEW SMART DRILLER

Designed for precision and built for durability, this machining center allows for milling, drilling and tapping and features a smart control system that monitors cutting conditions in real time, reduces downtime and optimizes production. Smart Driller was built to automate the post-laser-cutting finishing operations, minimize manual intervention and maximize production efficiency.

SUPPORT

We believe in making Mazak Optonics customers the most successful in the industry. That's why we've invested over $250,000 in cutting-edge call center technology to capture call volumes, wait times, type of calls, lengths of calls and other real-time metrics to ensure the highest level of customer support.

MPOWER
COMPLETE CUSTOMER CARE

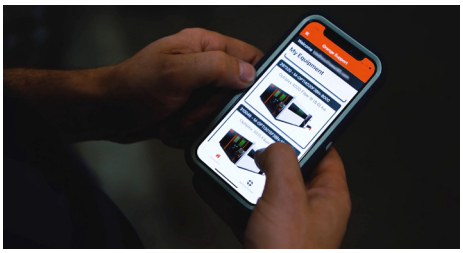
With You Every Step of the Way

Mazak MPower provides complete customer care with end-to-end machine support for the lifetime of every Mazak machine. From training to technical support, service and parts, MPower gives you everything you need to operate productively and efficiently to ensure your success every step of the way.

People make the difference. That's why Mazak is committed to building a team of experts to better support customers in every way possible.

Orange Support App Puts Service at Your Fingertips

Every manufacturer knows the vital role ease of use plays in maintaining high productivity. That holds true of machines and equipment, but it is just as important when it comes to service and support. Mazak Optonics strives to provide customers the highest level of service and support in a timely manner. The Orange Support app was developed for that reason—to simplify and streamline customer support. Once customers download and sign in to the Orange Support app, they can benefit from the following features:



The Orange Support app offers Mazak laser customers access to remote video capabilities, support requests, how-to videos, and more.

- Remote video capabilities offer more efficient service support allowing technicians to physically see the operator's concern without the need to travel on-site.
- Enhances tracking of support requests, improves customer experience and reduces total time from issue to resolution.
- Support requests through Orange Support are linked to Call Log System, prioritizing customer cases accordingly.
- Enables access to machine information through QR code on the machine or through serial number look-up including machine details and warranty information.
- Access to "How To" maintenance videos.

Access the Orange Support App today.

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DISCOVER

Mazak has been manufacturing machine tools for over 100 years and has been building laser solutions for the North American market for over 30 years.

Mazak Optonics Corporation offers a comprehensive range of 2D and 3D laser-cutting machine models, various options for automation systems to optimize production time along with robotic and machining options. This innovative range of products utilizes intelligent engineering, simplifies operations and delivers a more consistent machine performance to better meet fabricators specific laser application needs.

As a leader in laser technology, Mazak builds for what's next. Because of this mindset, we strive to find ways to significantly improve production efficiency, competitive positioning and profitability. We are committed to providing our customers with the highest quality technology and world-class customer support and service. Discover more with Mazak Optonics, supporting the North American installation base from our headquarters in Elgin, IL.

BUILT FOR WHAT'S NEXT

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