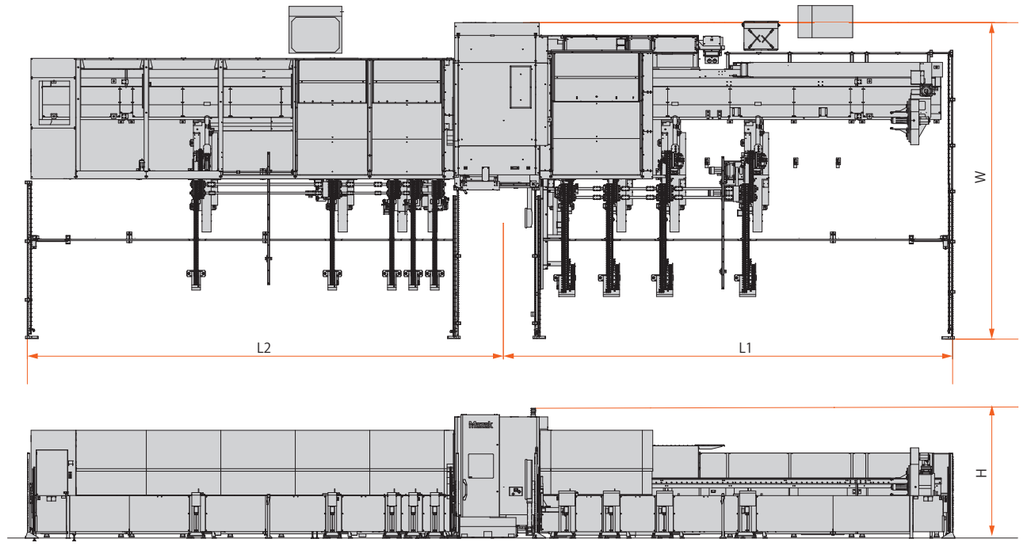
Machine Dimensions



* Optional 8m chain conveyor load/unload system shown.

Chain conveyor specifications		6 m (option)	8 m	12 m (option)	15 m (option)
Size	L1	8709 mm	10609 mm	14989 mm	17909 mm
	L2	9279 mm	11179 mm	15379 mm	18129 mm
	W (V support type)	7041 mm			
	W (chain type) (option)	7441 mm			
	H	3052 mm			

YAMAZAKI MAZAK CORPORATION

1-131 Takeda, Oguchi-cho, Niwa-gun, Aichi-pref., Japan
TEL : +(81) 587-95-1131

Mazak OPTONICS CORP.

North America Laser Technology Center
2725 Galvin Court, Elgin, IL, 60124
(847) 252-4500
mazakoptonics.com

E

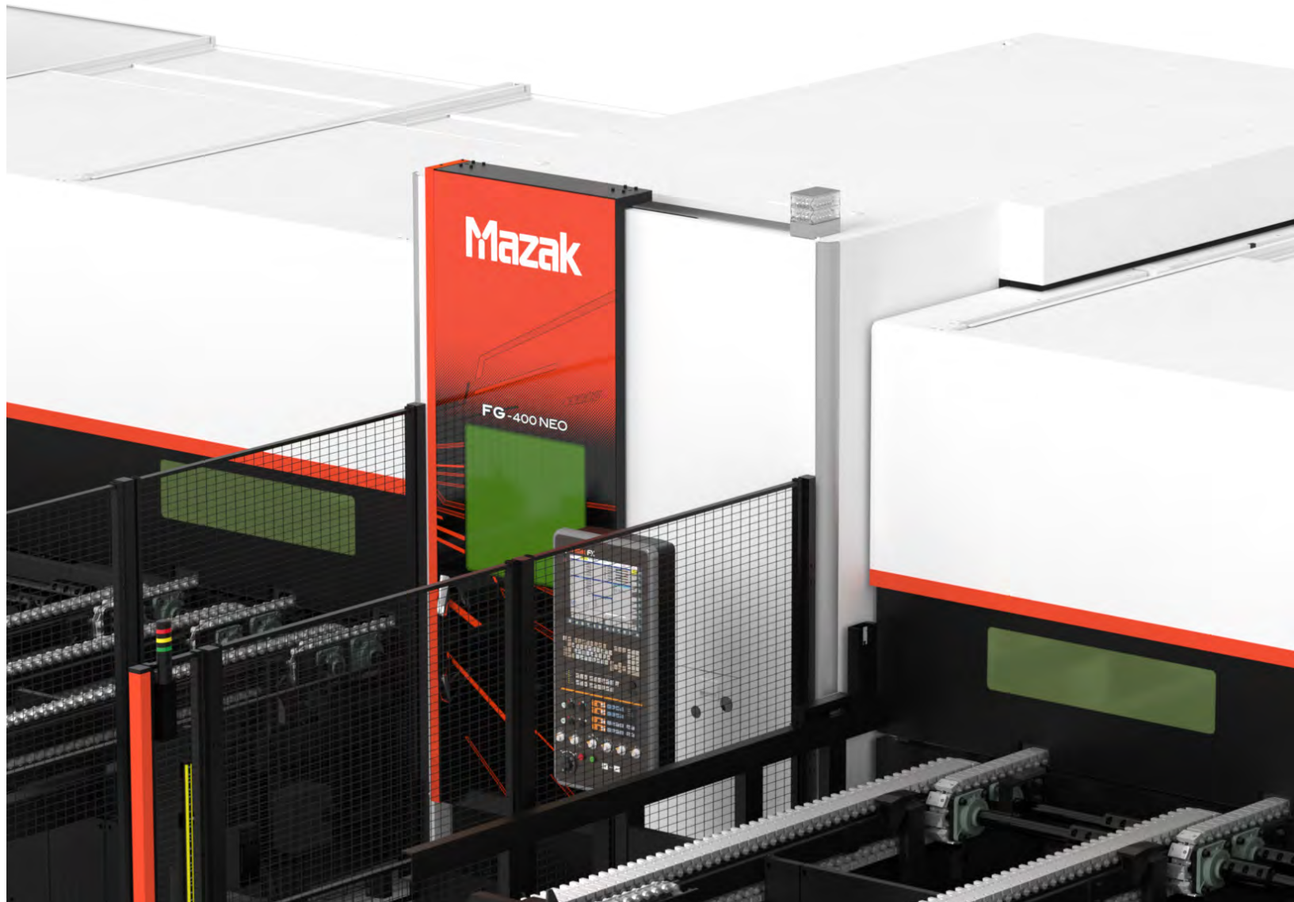
FG-400 NEO 22.04.3000 G 99J453222E0

FG-400 NEO

Mazak

FG-400 NEO

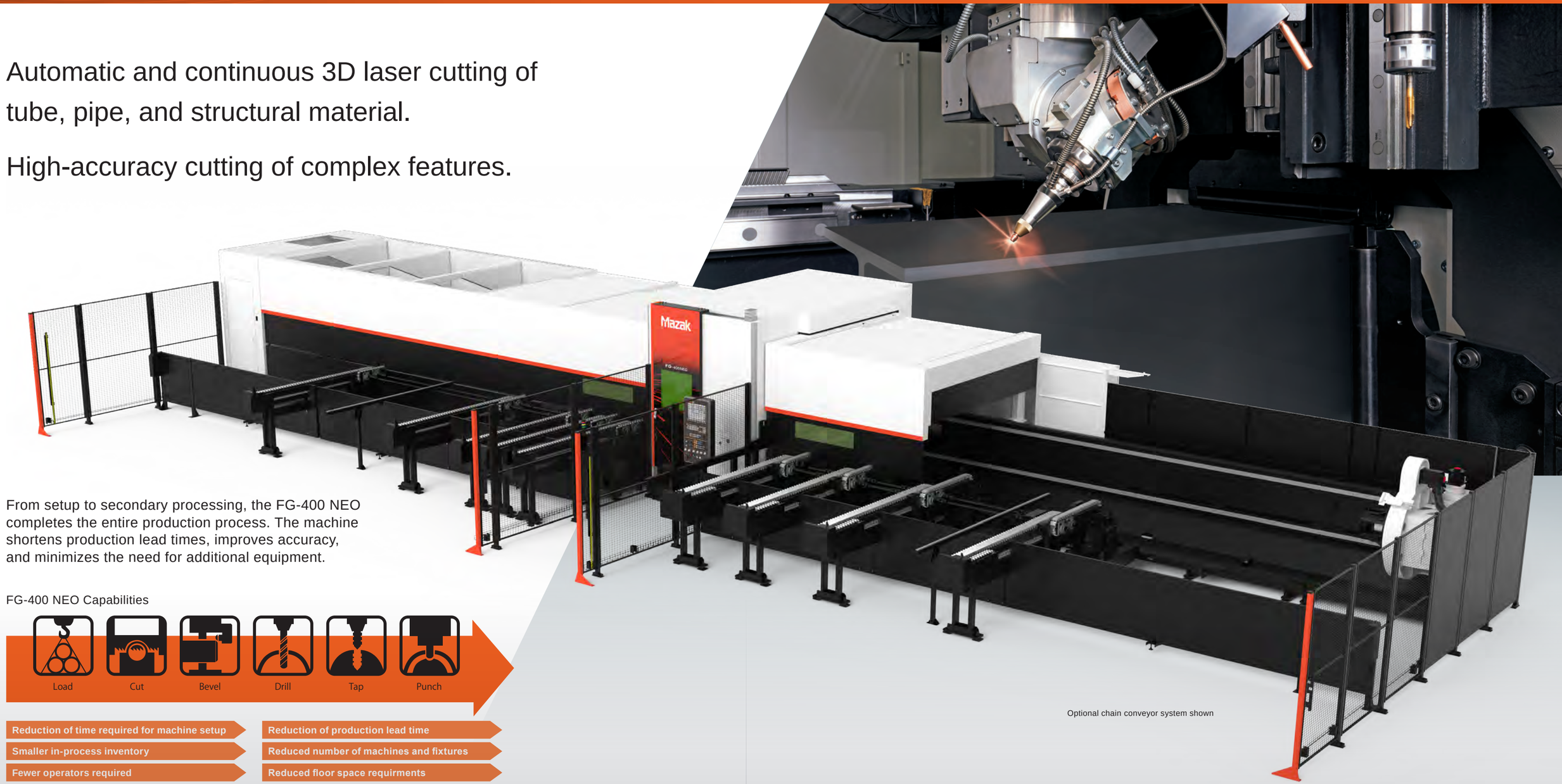
[3D Fiber Laser Processing Machine]



FG-400 NEO

Automatic and continuous 3D laser cutting of tube, pipe, and structural material.

High-accuracy cutting of complex features.



Optional chain conveyor system shown

From setup to secondary processing, the FG-400 NEO completes the entire production process. The machine shortens production lead times, improves accuracy, and minimizes the need for additional equipment.

FG-400 NEO Capabilities

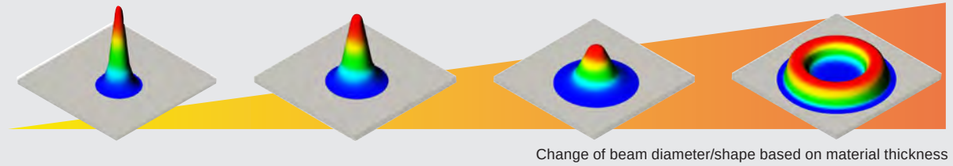
- Reduction of time required for machine setup
- Smaller in-process inventory
- Fewer operators required
- Reduction of production lead time
- Reduced number of machines and fixtures
- Reduced floor space requirments

High Productivity

Advanced technology featured on the FG-400 NEO provides higher productivity and efficiency than conventional laser-cutting systems.

Maximum control of beam shape and diameter

Mazak's FG-400 NEO automatically adjusts beam diameter to accommodate the cutting of various materials and thicknesses. Additionally, these machines are equipped with beam shaping technology that controls where the laser beam's power density is concentrated. Together, these functions improve cut speed and quality for a wide range of materials.



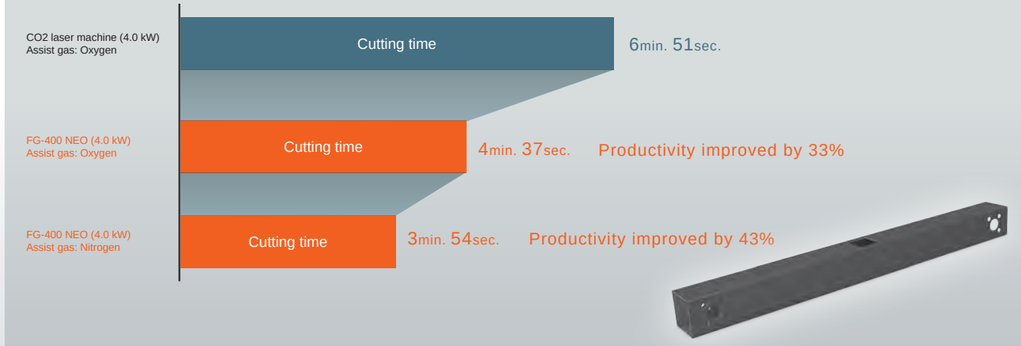
Change of beam diameter/shape based on material thickness

Capable of cutting highly reflective material, including Aluminum

Productivity Comparison

Fiber lasers have a shorter wavelength than CO2 lasers, enabling high-speed cutting on medium steel. The FG-400 NEO improves productivity when cutting thin to medium thickness pipe and structural material. Additionally, productivity is further improved when cutting stainless steel.

Comparison of Cutting Speed on Square Tube

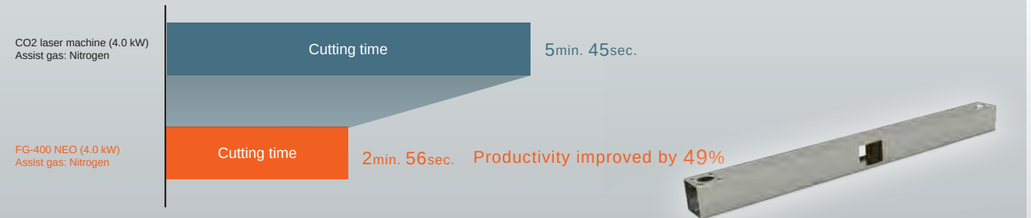


Mild Steel 300 mm (11.81 in) × 300 mm (11.81 in) × 4.5 mm (0.18 in) × L3500 mm (137.8 in)

Comparison of Cutting Speed on H-Beam

Mild Steel H150 mm (5.91 in) × 150 mm (5.91 in) × 10 mm (0.39") × L3000 mm (118.11 in)

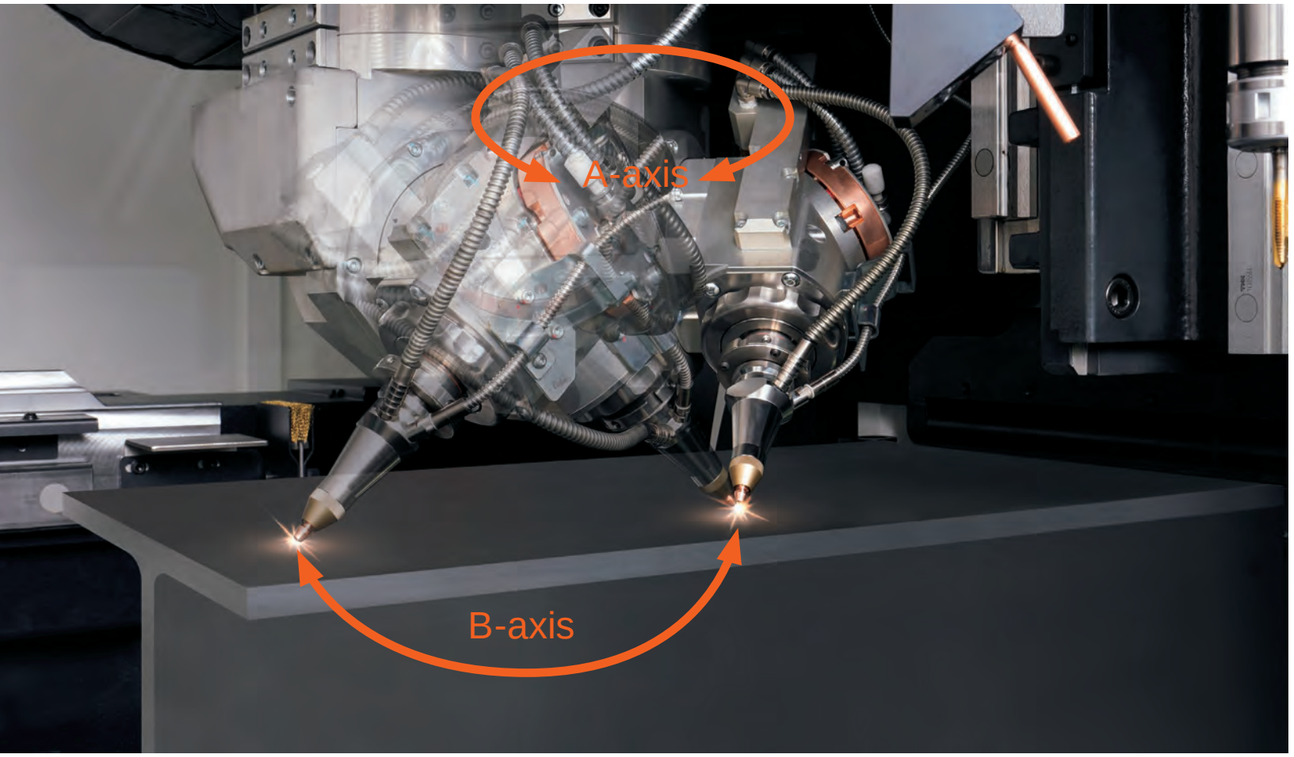
Comparison of Cutting Speed on Square Pipe



Stainless 200 mm (7.87 in)× 200 mm (7.87 in) × 3 mm (0.12 in) × L2500 mm (98.43 in)

High Accuracy

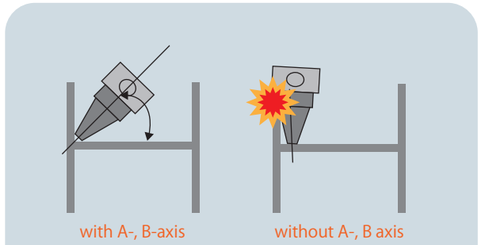
A-axis and B-axis capabilities on the 3D laser head can process a wide range of material at any desired angle.



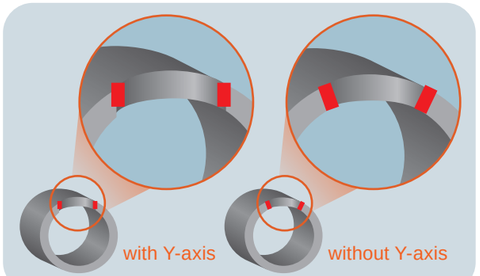
Capable of processing a wide range of materials, including highly reflective material

The FG-400's 3D laser and fiber laser technology combined provide optimal laser cutting on complex features and highly reflective material, such as copper and brass.

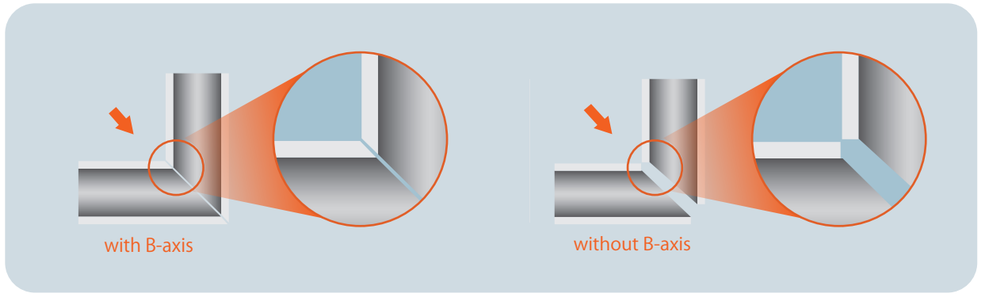
- A-axis and B-axis enable easy cutting of H-beam



- Vertical cutting with Y-axis



- Bevel cutting with the B-axis provides tight-joint pipes

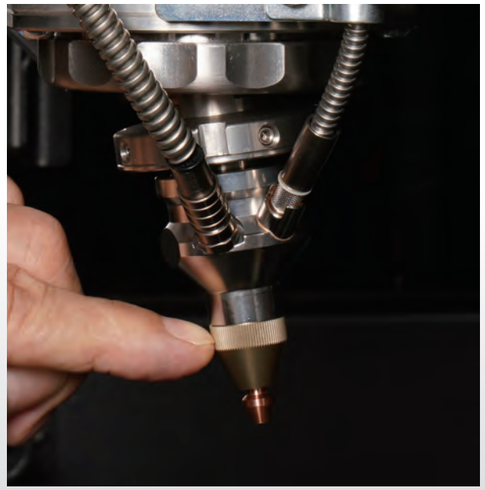


Angled processing with 3D laser head

The 3D laser head enables cutting from various angles and directions, improving accuracy when cutting and joining tube/structural material.

Protection torch

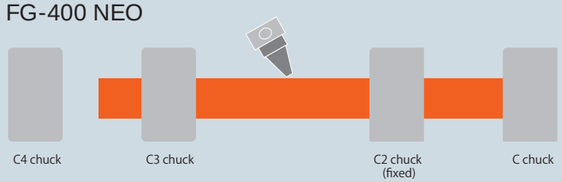
The torch tilts to minimize damage if it collides with a workpiece



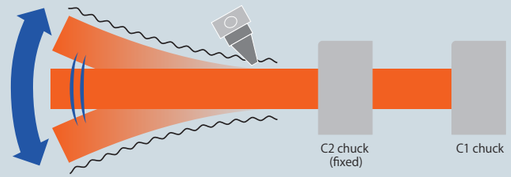
High Accuracy

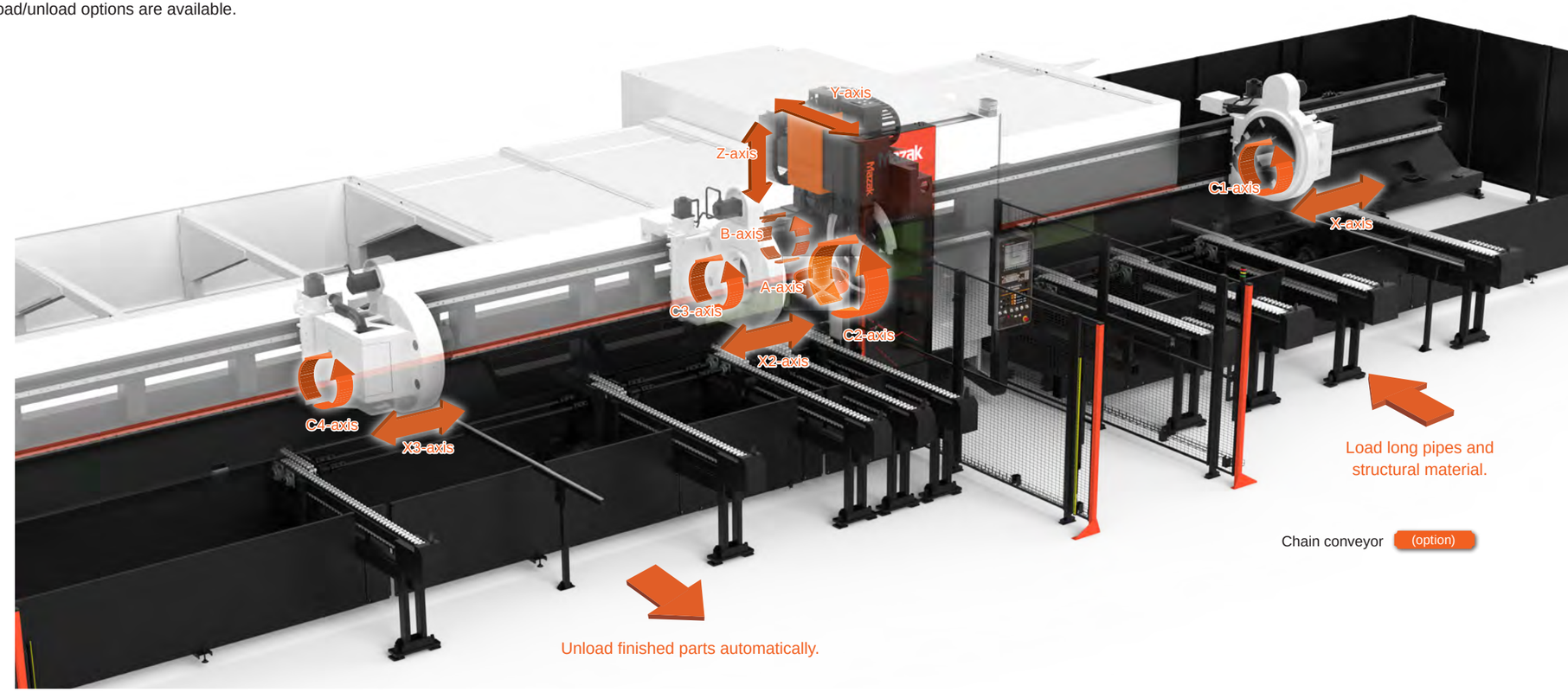
Four synchronized chucks travel and rotate simultaneously to prevent material distortion during processing. Specialized equipment, like supporters, enable high accuracy cutting of long material. The standard model can load/unload 8m (26.2 ft). Additional 6m (19.6 ft), 12m (39.4 ft), and 15m (49.2 ft) load/unload options are available.

FG-400 NEO

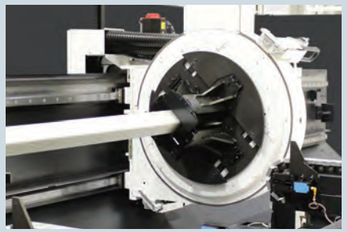


Machine with 2 chucks





Auto centering and clamping of material



Automatically centers and clamps different shapes—including round, square and rectangular.

Horizontal workpiece centering (option)

Horizontal workpiece centering for long beams and small pipes by roller prevents material displacement.

Flat support

A flat roller controlled by CNC adjusts automatically to support the material and prevent sagging.

Fixed support

Fixed supports, located beside the V-shaped supports, prevent sagging in longer, small diameter material.

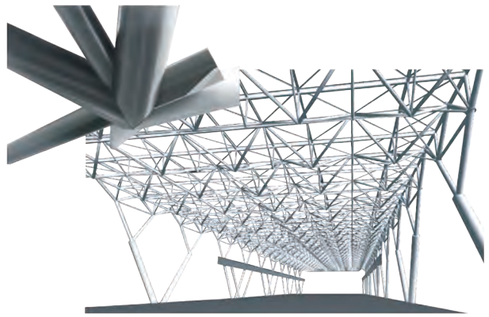
Round pipe support

Round material is supported by V-shaped supports. This prevents the material from sagging due to its own weight.

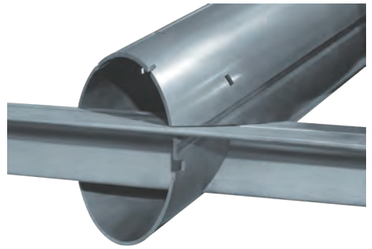
Cut Complex Contours with High Productivity

Structural Material

Cutting long tubes and pipes of various shapes with high precision results in tight-fitting joints. As a result, structural projects are completed quickly, and secondary processes like welding are simplified in comparison to conventional methods.

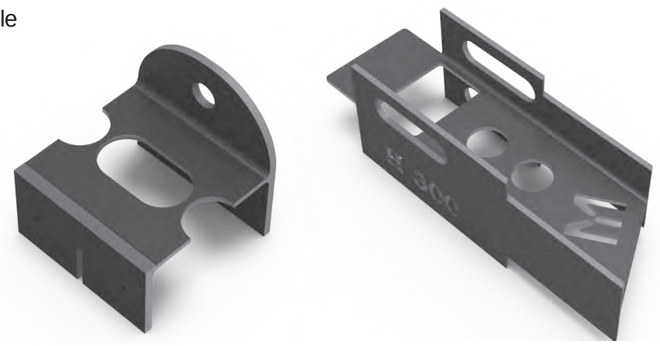


Complex joints of pipes



Beam shaping technology enables stable cutting on thick material.

Example of H-beam 300mm (11.81 in)

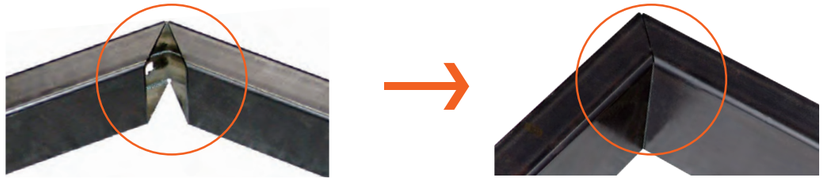


Laser cut complex contours to minimize secondary processes

Assembling laser-cut tabs and slots on pipe components results in tight-fit joints and reduced positioning time for welding.

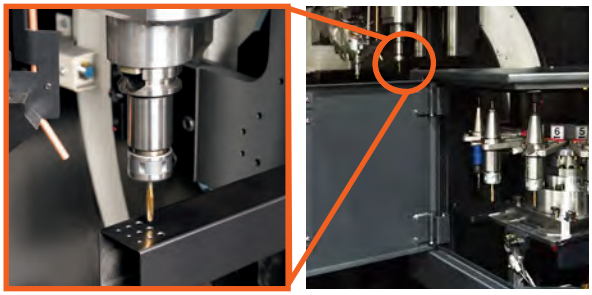
Bending and folding method reduces processing time

The utilization of bending and folding methods results in improved assembly accuracy and significantly reduces processing times.



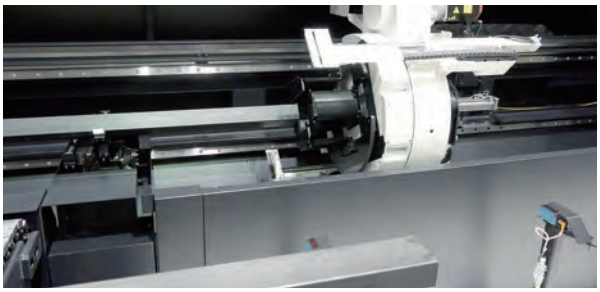
Optional Equipment

Tapping unit



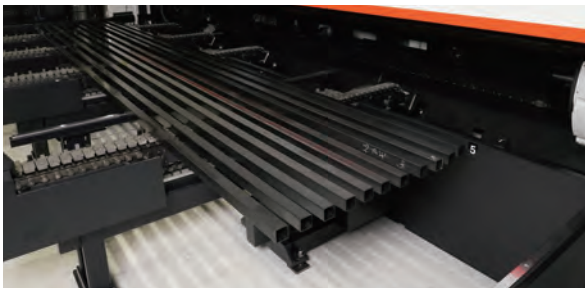
Complete all cutting processes from 3D cutting to tapping in the same machine. The hole to be tapped is cut by the laser and tapped for shorter production lead time and higher productivity. Maximum tapping capability: M16 (5/8 UNC and UNF).

Workpiece measurement



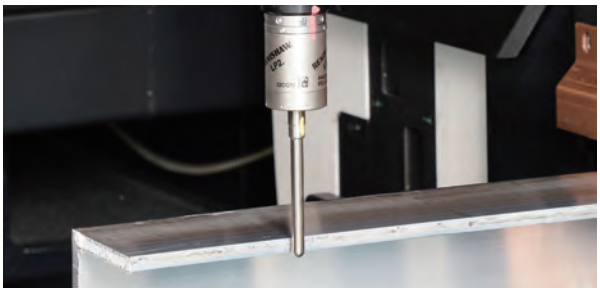
Automatically measures material length after loading onto the machine. This process eliminates manual measuring for each piece of material.

Chain type conveyor



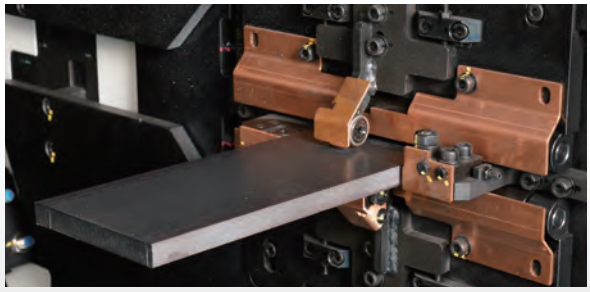
Easily load larger quantities of material (depending on diameter) for continuous operation. Example of maximum loading capacity: φ20mm (0.79 in) x 40, φ400mm (15.75 in) x 5.

Touch sensor



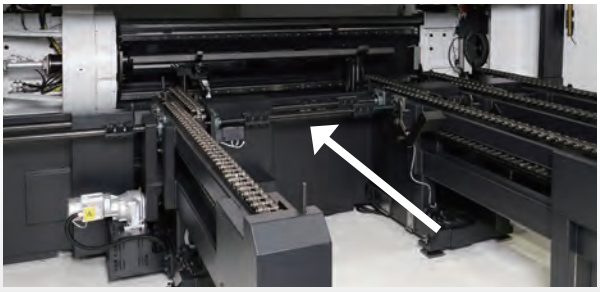
Measures the outer dimension of pipe/structural material and automatically compensates for material distortion to ensure high precision positioning.

Flat bar handling



By attaching a jaw dedicated for flat bar cutting, flat bars can be processed.

Short material carrying function



Short materials, which cannot be loaded from the loader side, can be loaded from the unloader side, maximizing material usage.