Standard Machine Specifications

Max. workpiece size	Flat sheet	1250 mm × 1250 mm (49.2" × 49.2")
	Cube	900 mm × 900 mm × h340 mm (35.43" × 35.43" × 13.39")
Table height		900 mm (35.43")
Axis travel	X-axis	1270 mm (50")
	Y-axis	1270 mm (50")
	Z-axis	340 mm (13.39")
	A-axis	±99999.999°
	B-axis	±135°
	C-axis*1	±99999.999°
Rapid traverse rate		X, Y, Z : 24 m/min (945 IPM)
		A : 9600°/min, B : 9600°/min, C : 12000°/min
Max. feedrate		15 m/min (590 IPM)
Positioning accuracy		±0.01 mm / 500 mm (±0" / 19.69") (X, Y-axes)
Repeatability		±0.005 mm (±0") (X, Y, Z-axes)
		±0.01" (A, B, C-axes)
Machine weight		8000 kg (17637 lbs)
		8800 kg (19400 lbs) (Including chiller unit and transformer)
Electrical requirement*2		50 kVA (2.5 kW) / 67 kVA (4.0 kW)
Sound*3		less than 80 db (A)

*1 NC rotary table on C-axis is option
*2 Dust collector not included
*3 Equivalent continuous sound pressure level at operator position (dependent on equipment options)

Specifications of Laser Oscillator

Resonator	2.5 kW, 4.0 kW
Laser gas	He, Ne and CO_2
Gas consumption rate*	10 L/h (2.5 kW) 15 L/h (4.0 kW)

(Continuous operation)

CNC Standard Specifications

	MAZAK FX (FANUC 30i-L5)
CPU	64bit
Minimum program increment unit	0.001 mm (0.0001 in) : X·Y·Z 0.001° : A·B·C
Programming method	EIA / ISO
	Teaching / playback
Display	15" color LCD

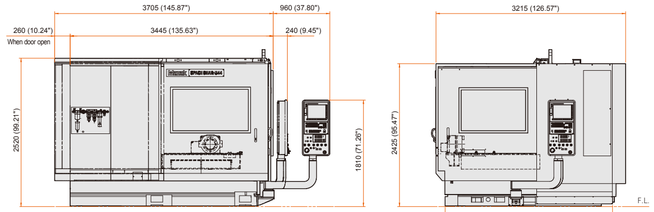
Standard and Optional Equipment

● : Standard ○ : Option

Machine	Work light	●
	Workpiece clamp and locator	●
	Oscillator status light	●
	Chiller unit	●
	Through-hole rotary table : manual scroll chuck ø20~285 mm (ø0.79"~11.22")	○
	Stepped jaw (for rotary table, I.D. ø285 mm (ø11.22"))	○
Torch	Torch for 2D cutting without 7.5" lens	○
	7.5 non-contact profiler torch without lens	●
	Additional 7.5 non-contact profiler torch without lens	○
Lens	7.5" Mazak high accuracy lens (2.5 MPa)	○
Nozzle	Nozzles (for 2D cutting ø1.5 mm, ø2.0 mm, ø3.0 mm, 1 each)	●
	M5 type nozzles (ø1.5 mm, ø2.0 mm, ø3.0 mm, 1 each)	●
	M5 type nozzle (ø1.2 mm, ø1.5 mm, ø2.0 mm, ø2.5 mm, ø3.0 mm, 3 each)	○
	Nozzles (for 2D cutting ø1.2 mm, ø1.5 mm, ø2.0 mm, ø2.5 mm, ø3.0 mm, 3 each)	○
Assist gas	Assist gas selector (3 types)	●
	Assist gas pressure NC control	●
	3rd assist gas piping (Supply 3.0 MPa)	●
	4th assist gas piping (Supply 3.0 MPa)	○
Factory automation	NC retry function (2D cutting)	●
	Automatic power off	●
Working environment	Preparation for dust collector	●
CNC, teaching	Teaching pendant	●
	USB port for PC	●
Others	Manual	●
	Additional manual	○

Machine Dimensions

Unit : mm (inch)



Mazak

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SPACE GEAR-U44 16.07.2000 T 99J447116E0 Ⓦ

SPACE GEAR-U44

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SPACE GEAR-U44

Mazak

Compact 2D / 3D Laser Processing Machine

SPACE GEAR-U44

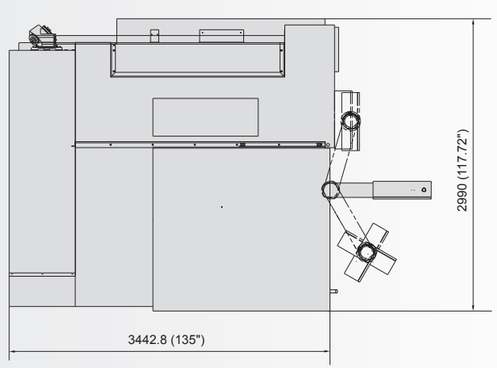
- Performs a wide range of cutting - thin sheets, thick plates, cubic workpieces, square pipe, round pipe and structural material
- Table size : 1250 mm × 1250 mm (49.2" × 49.2")
- Laser integrated with machine provides not only minimum floor space requirement but also reduces optical axis adjustment for lower maintenance expense
- Minimum workpiece cutting time with MAZAK FX CNC

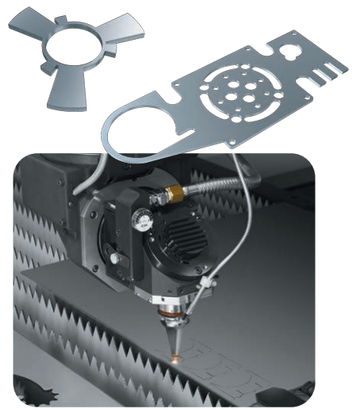
Small footprint

Compact machine design

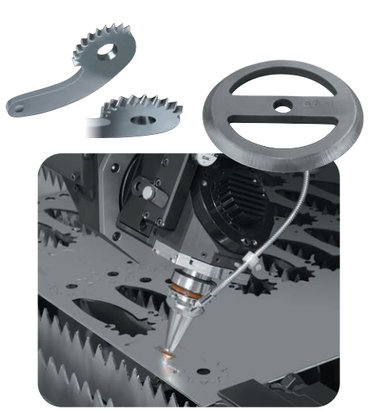
SPACE GEAR-U44
floor space

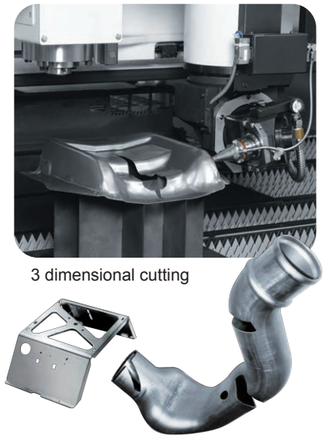
Unit: mm (inch)

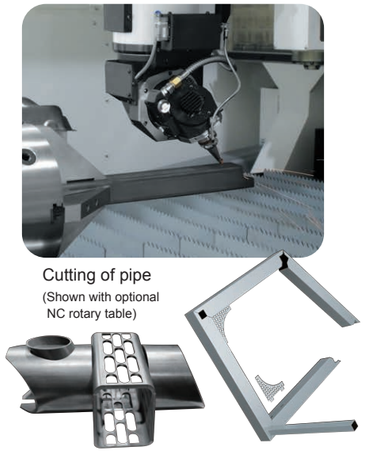


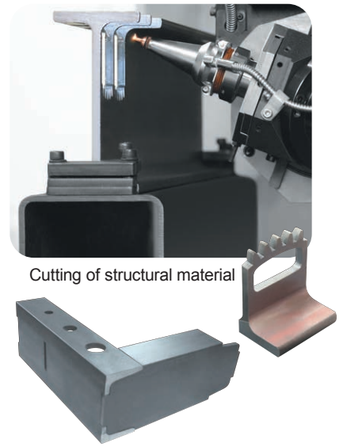

High speed cutting of thin sheet

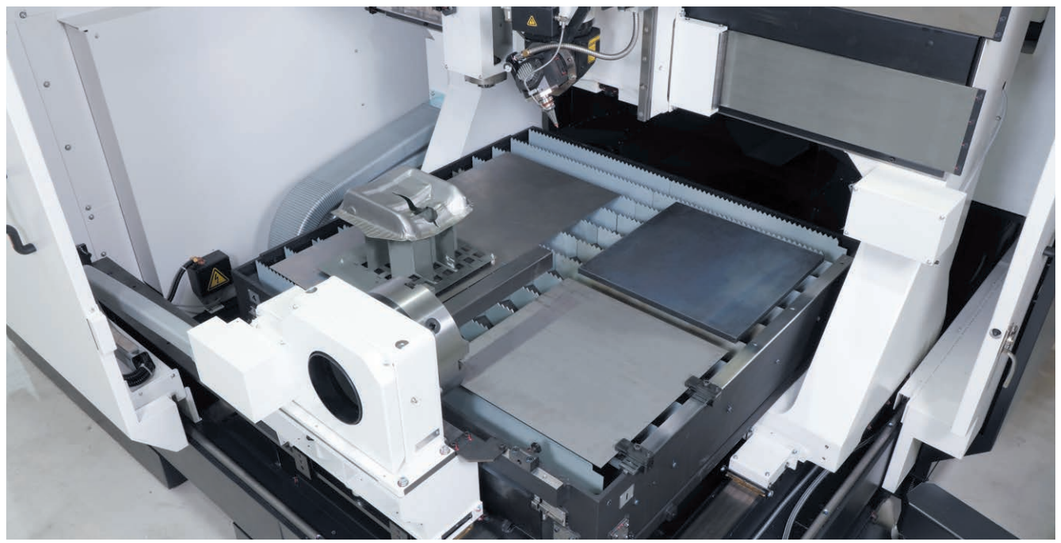

Cutting of thick plate


Beveling of flat sheet


3 dimensional cutting


Cutting of pipe
(Shown with optional NC rotary table)

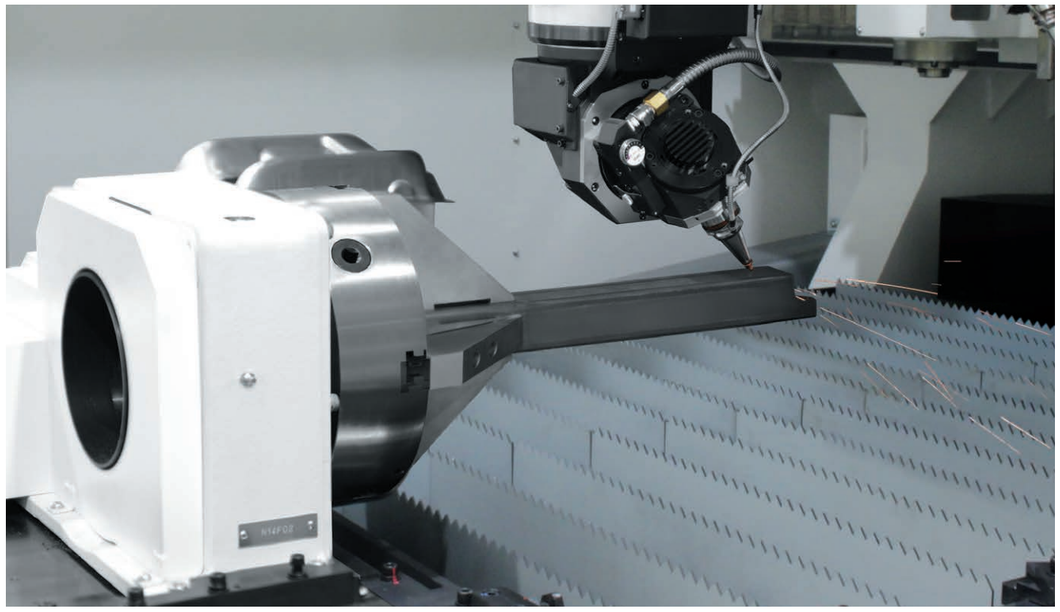

Cutting of structural material



Higher Productivity

Cutting of pipes and structural material

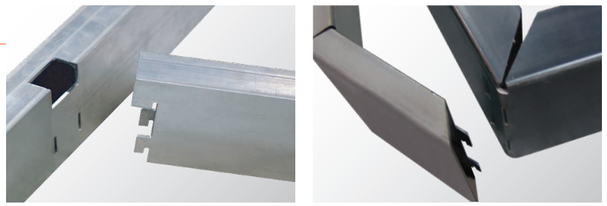
The SPACE GEAR-U44 makes possible the high efficiency cutting of any materials, - much better than 2D laser processing machine with NC rotary table



Beveling of square pipe (NC rotary table is optional)

Joining by tab and slot

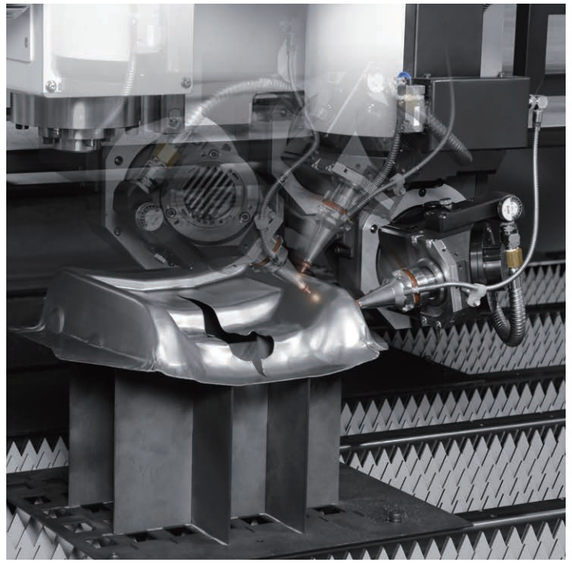
By cutting tabs and slots on pipes or structural material, joining can be done without requiring any temporary assembly fixture. Thermal distortion caused by joining can also be reduced.

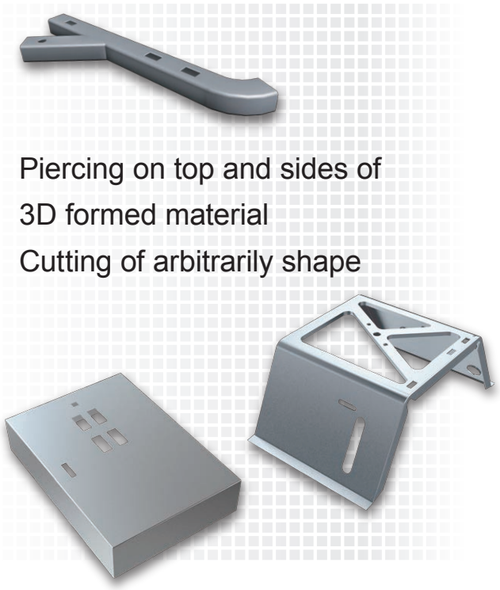


Tight pipe joints

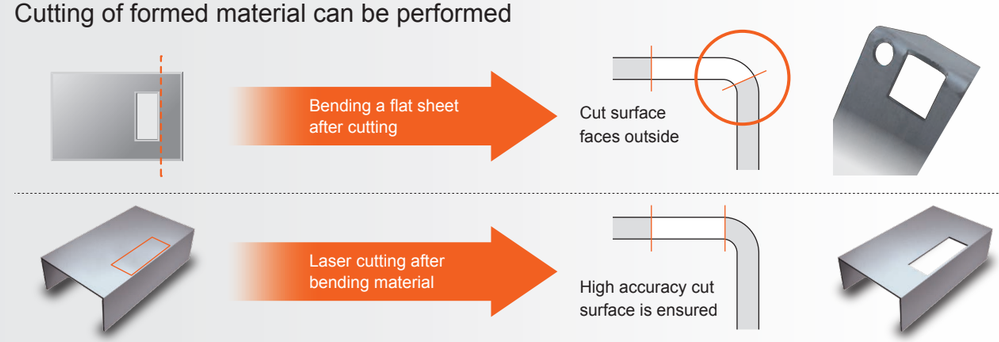
Complex curved surfaces on mating pipes can be cut by 3D laser processing. Tight-fit pipe joints are ensured.

3D cutting by SPACE GEAR U-44



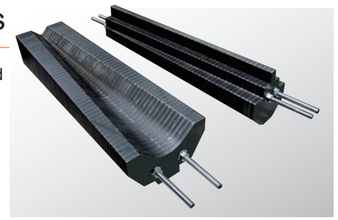


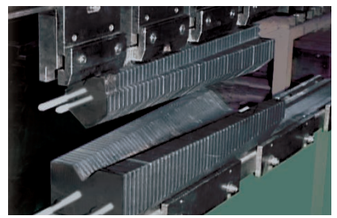
Cutting of formed material can be performed



3D processing of laminated dies

Laminated dies for press brakes can be produced by the SPACE GEAR U-44. By using both software and 3D laser, different shaped dies for small lot production can be produced.





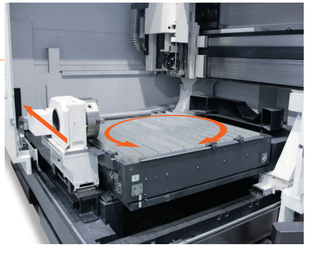
Ergonomics

Totally enclosed cover (class 4 cover) - standard equipment

The total machine cover, which covers the entire processing area, protects operators from the laser beam and cutting spatter. The large front door and side door provides convenient worktable access to the operator. A dust collector is optionally available to ensure a safe and clean environment.

Rotating table for ease of loading / unloading

Material is easily loaded and unloaded deep inside the machine for increased ease of operation when equipped with the optional rotating table. Additionally, material remnants are easily disposed as well.
The machine equipped with the optional rotating table temporary retracts the rotary table inside the machine for during the table rotation.

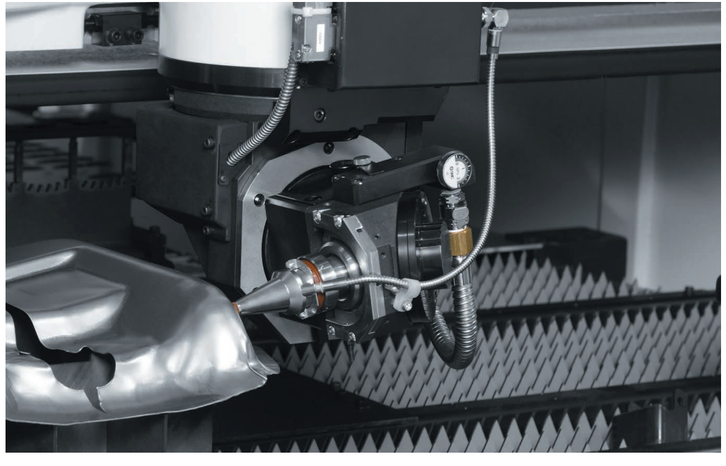


Swiveling operation control panel

The combination of the 120° arm rotation and 80° of panel rotation provides a better view to the laser head when setting up the machine.

Compact cutting head

Equipped with a 7.5" lens, the head can be positioned anywhere between the vertical and horizontal positions, and is designed to handle a wide range of materials and thickness.



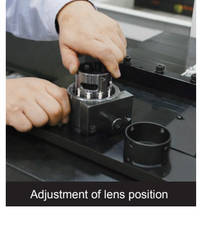
Protection torch

Minimizes damage if torch collides with workpiece

Ease of mounting / removal and adjustment

The torch lens is easily removed. Lens cleaning and focal point adjustment can be done without removing the cutting head.

Mounting / removal



Adjustment of lens position

High-Performance CNC System

Mazak FX

The MAZAK FX CNC - featuring simplified operation

ALL IN ONE

The Mazak FX CNC controls all operations in one machine.

ERGONOMICS ergonomics

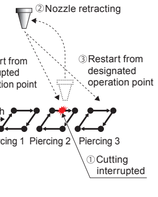
The keys on the operation panel are arranged in an operator-friendly layout. The large, easy-to-read 15" color monitor is standard equipment.

Quick program restart function

When automatic operation is stopped using the NC reset button due to an interruption created by an alarm / cutting failure, the Quick Program Restart Function retains the position in its memory and can restart the machine from the point where it stopped.
This Restart is particularly important when cutting expensive material such as stainless steel or aluminum and it is interrupted by a Burn Detection Alarm.

■In case of an alarm stoppage, it is possible to restart from the point where it stopped.

■Even after power shutdown, restart is possible.



Cutting conditions data base

Optimum cutting conditions including cutting speed, laser output and assist gas pressure can be set according to the type of material and thickness to be cut.

Teaching pendant

The control pendant is used for teaching operation. Program editing, JOG function, as well as changing the cutting and JOG feedrates can be performed.