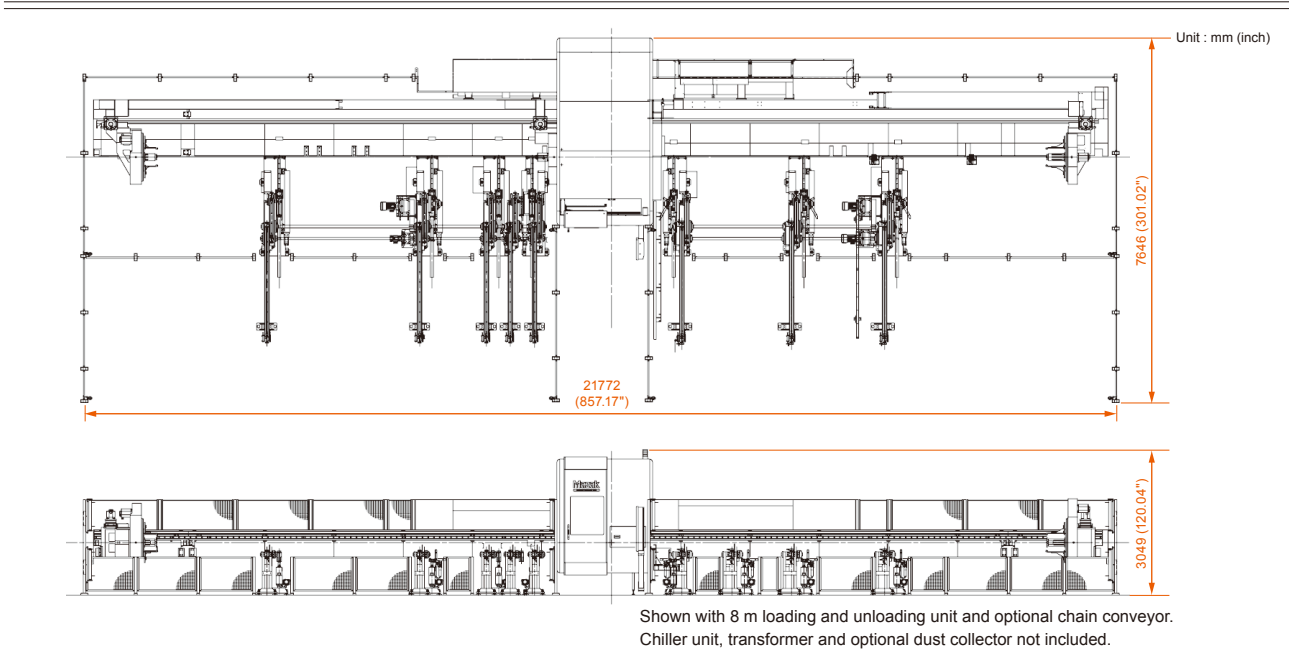


3D FABRI GEAR 400 III



Standard equipment

8 m loading equipment
8 m unloading equipment
V support conveyor
7.5" non-contact profile torch with M5 type nozzle and 7.5" lens
Auto focus positioning
Nozzle pointer
Work light
Resonator status indicator light
Assist gas selector (O ₂ , air and 3 rd gas)
Assist gas pressure NC control
Profiling retry function
Chiller unit
Parts catcher (~1000 mm (~39.37"))
Safety fence & area sensor
Material support function (flat support, fixed support and round pipe support)
Auto power off
3 rd . assist gas piping (3.0 MPa supply)
Scrap pan
Cutting condition database
Scheduler
Set of manuals

Optional equipment

6 m / 12 m / 15 m loading equipment
6 m / 12 m / 15 m unloading equipment
Additional loader
Chain conveyor
Touch sensor (X-axis end measurement, rechucking and twist compensation)
Seam detector
Tapping unit
M10 type non-contact profiling type torch for 7.5" lens (with M10 type nozzle and 7.5" lens)
M5 type non-contact profiling type torch for 8.5" lens (with M5 type nozzle and 8.5" lens)
Work measurement
Short material carrying function
Horizontal support
Small-diameter workpiece support jaws
4" high-pressure gas piping (3.0 MPa Supply)
FX TUBE
MT connect adapter

3D FABRI GEAR 400 III



3D FABRI GEAR 400 III



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- Specifications are subject to change without notice.
- This product is subject to all applicable export control laws and regulations.
- The accuracy data and other data presented in this catalogue were obtained under specific conditions. They may not be duplicated under different conditions. (room temperature, workpiece materials, tool material, cutting conditions, etc.)

3D FABRI GEAR 400 III 16.12.3000 T 99J448416E0 (W)



Thanks to CNC scheduler software, automatic and continuous 3D laser cutting of large, long structural material

High precision cutting of complex features by 3D laser head and automatic focus positioning

- Optional chain conveyor for increased versatility and maximum quantity of workpieces
- Optimum focus positioning is automatically determined resulting in considerably reduced piecing time

H beam 300 mm (11.81") cutting

Can cut long, large structural materials

Max. material length	8000 mm (314.96"), 6100 mm* (240.16"), 12200 mm* (480.31"), 15100 mm* (594.49")
Max. cutting length for unloading	8000 mm (314.96"), 6100 mm* (240.16"), 12200 mm* (480.31"), 15100 mm* (594.49")
Max. material diameter	round pipe \varnothing 406.4 mm (16.00") square pipe \square 300 mm (\square 11.81") H beam 300 mm (11.81")

*option

- Just load long material in the loading station, and 3D cutting is performed automatically as well as transfer of finished parts to the unloading station
- Complete all cutting processes from 3D cutting to tapping in just one machine when equipped with the optional tapping unit [Max. M12 (1/2 UNC and UNF)]

3D Laser Processing Machine for Long Pipes and Structural Material

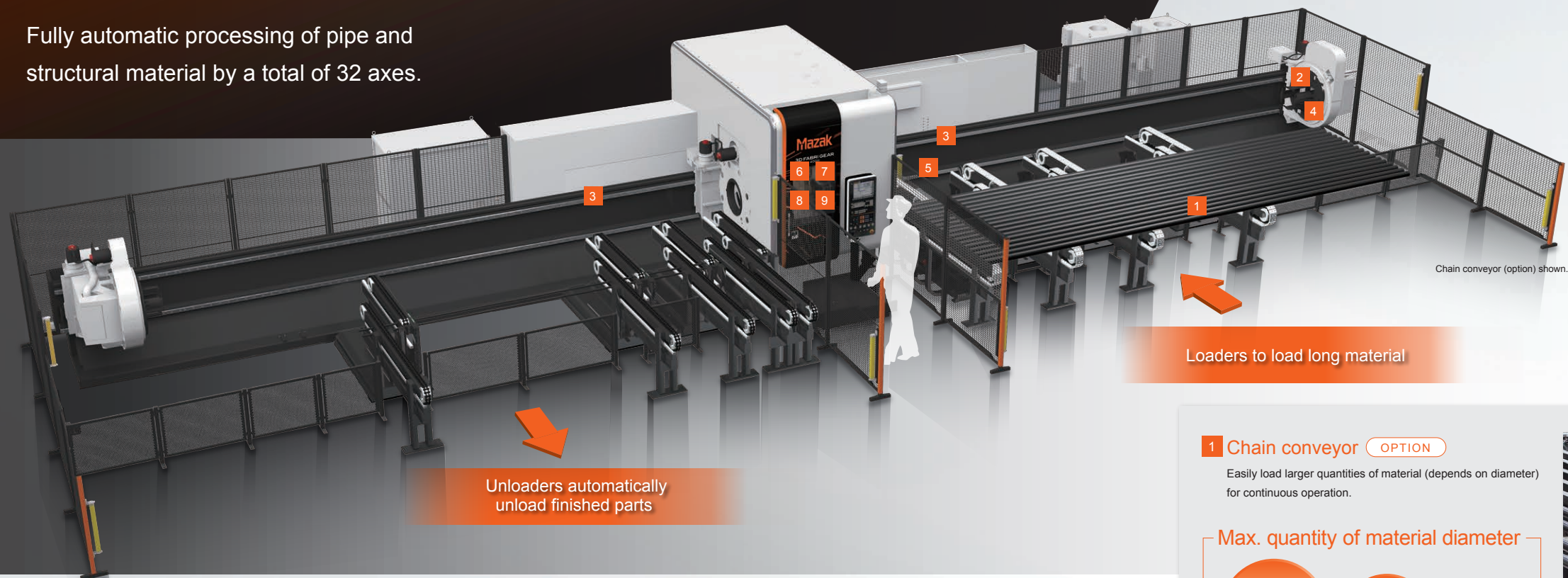
3D FABRI GEAR 400 III

Chain conveyor (option) shown.

Various functions for high value and high accuracy cutting

Fully automatic processing of pipe and structural material by a total of 32 axes.

Just load the material into the loading station, and material handling, 3D laser cutting and unloading of finished workpieces are all performed automatically.



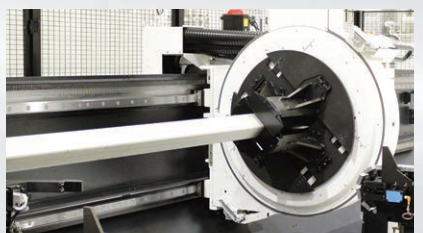
V support conveyor
Can load a maximum of 5 pipes and beams.

Chain conveyor (option) shown.

Loaders to load long material

Unloaders automatically unload finished parts

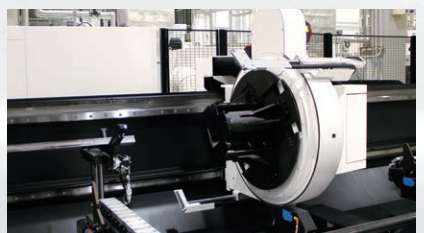
High accuracy cutting of long materials



2 Auto centering and clamping of material
Automatically center and clamp different material shapes, such as round, square and rectangular.



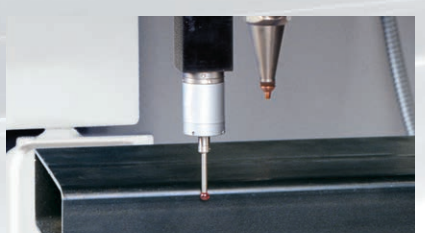
3 Flat support
Flat roller follows the shape of material, so that the material will not sag from its own weight.



4 Workpiece measurement **OPTION**
Automatically measures material length after loading into machine, eliminating manual measuring for each piece of material.



5 Horizontal support **OPTION**
Horizontal support for long beams and small pipes by roller to prevent material displacement.



6 Touch sensor **OPTION**
Measures the OD of pipe material and automatically compensates for material distortion to ensure high precision positioning.

1 Chain conveyor **OPTION**

Easily load larger quantities of material (depends on diameter) for continuous operation.

Max. quantity of material diameter

ø400 mm (15.75") x 5	ø300 mm (11.81") x 6	ø150 mm (5.91") x 11
ø50 mm (1.97") x 23	ø20 mm (0.79") x 40	



High value and high quality cutting



7 Tapping unit **OPTION**
Perform 3D laser cutting, tapped hole preparation and tapping- all in the same machine. The hole to be tapped is cut by the laser and then tapped for shorter production lead time and higher productivity.
[Max. M12 (1/2 UNC and UNF)]



8 Bevel cutting
Improved quality of processed components thanks to unsurpassed 3D laser cutting.



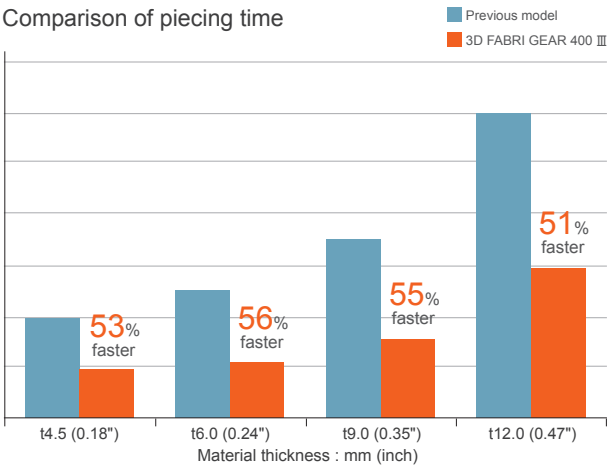
9 Parts catcher
Can catch a finished part up to 1000 mm (39.37") long and remove from machine.

► Considerable reduction in piercing time and set up time

Auto focus positioning

Optimum focus positioning determination
for considerable reduction of piecing time.
Continuous processing thanks to auto focus
positioning determination.

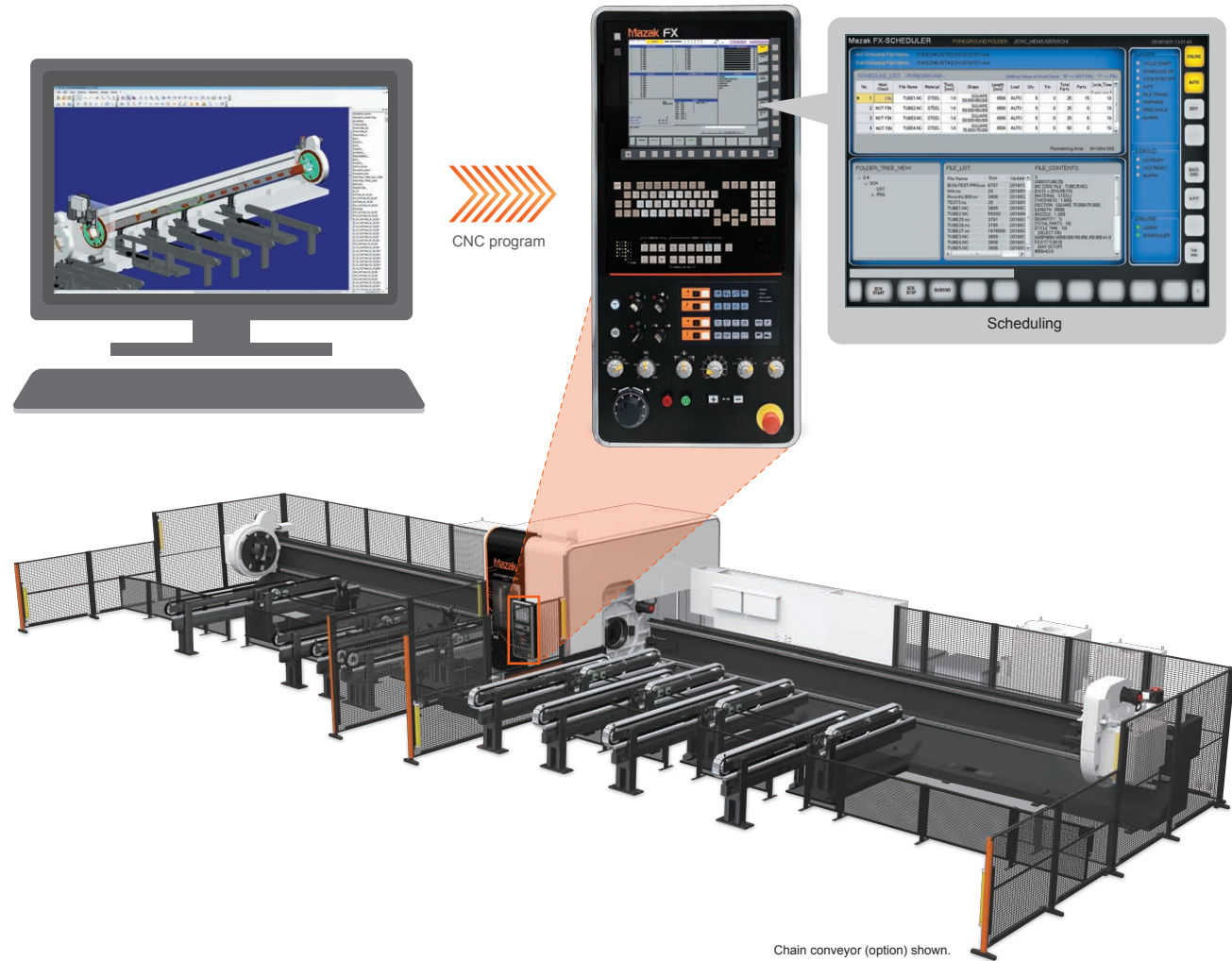
Comparison of piecing time



► Continuous cutting schedule

Scheduler function by CNC

Production schedule can be created by utilizing nesting programs generated by MAZAK software.
Scheduling is done for material supply, cutting and removing finished workpieces.



Machine specifications

Model* ¹		6 m (option)	8 m	12 m (option)	15 m (option)
Workpiece shape		Round, square, L/H/I beam and channel			
Workpiece material		Mild steel / Stainless steel			
Workpiece diameter* ²	Round pipe	ø20 mm ~ 406.4 mm (ø0.79"~16.00")			
	Square pipe	20 mm × 20 mm ~ 300 mm × 300 mm (0.79" × 0.79" ~ 11.81" × 11.81")			
	L beam	20 mm × 20 mm ~ 254 mm × 254 mm (0.79" × 0.79" ~ 10.00" × 10.00")			
	H/I beam	20 mm × 20 mm ~ 300 mm × 300 mm (0.79" × 0.79" ~ 11.81" × 11.81")			
	Channel	20 mm × 20 mm ~ 300 mm × 140 mm (0.79" × 0.79" ~ 11.81" × 5.51")			
Max. material length for loading		6100 mm (240.16")	8000 mm (314.96")	12200 mm (480.31")	15100 mm (594.49")
Min. material length for loading		2500 mm (98.43")	3450 mm (135.83")	3650 mm (143.7")	5800 mm (228.35")
Min. material length for loading (option)		1700 mm (66.93")	2200 mm (86.61")	2200 mm (86.61")	3600 mm (141.73")
Max. workpiece weight* ³		600 kg (1323 lbs)	800 kg (1764 lbs)	1200 kg (2646 lbs)	1200 kg (2646 lbs)
		100 kg /m (220 lbs / 39.37")			
Stroke	X Chuck left / right	6890 mm (271.26")	8790 mm (346.06")	12990 mm (511.42")	15890 mm (625.59")
	U Chuck left / right	7400 mm (291.34")	9300 mm (366.14")	13500 mm (531.5")	16400 mm (645.67")
	V Chuck left / right	2515 mm (99.02")			
	Y Head back / forth	1270 mm (50.00")			
	Z Head up / down	370 mm (14.57")			
	A Head rotation	±99999.999 deg			
	B Head swing	±135 deg			
Max. traverse rate	X, U, V	30 m/min (1181 IPM)			
	Y	24 m/min (945 IPM)			
	Z	24 m/min (945 IPM)			
	A, B	9600 deg/min			
	C (Chuck rotation)	6000 deg/min			
Machine weight* ⁴	4.0 kW	33000 kg (72751 lbs)	35000 kg (77160 lbs)	39000 kg (85979 lbs)	42000 kg (92593 lbs)
Electrical requirement	4.0 kW	87 kVA			
Sound* ⁵		less than 80 dB (A)			

*1 Workpiece length for loading and unloading can be different length *2 Jaws are changed according to material diameter
*3 Requires to meet maximum workpiece weight and maximum workpiece weight per 1 meter *4 When workpiece length for loading and unloading is the same length
*5 Equivalent continuous sound pressure level at operator position (dependent on equipment options)

Loader / unloader specifications

		V support	Chain (option)
Max. quantity of material loaded	ø400 mm (ø15.75")	5	5
	ø300 mm (ø11.81")		6
	ø150 mm (ø5.91")		11
	ø50 mm (ø1.97")		23
	ø20 mm (ø0.79")		40
Max. loading weight		6000 kg (13228 lbs)	
Transfer speed	2.5 m/min (98 IPM)		

CNC standard specifications

Model	MAZAK FX
CPU	64 bit
Controlled axes	Max. 32
Minimum program increment	0.001 mm (0.0001")
Programming method	EIA/ISO
Monitor	15" color LCD

Specifications of Laser Resonator

Resonator	4.0 kW
Laser gas	He, N ₂ , CO ₂
Laser gas consumption*6	15 L/H

*6 Continuous operation