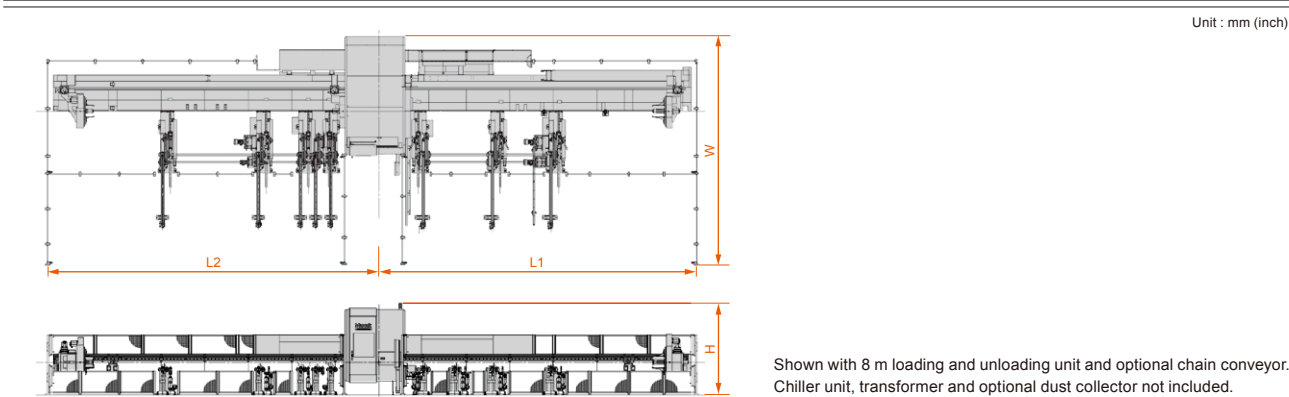


Machine Dimensions



		3D FABRI GEAR 220 III				3D FABRI GEAR 400 III			
Model		3 m (option)	6 m (option)	8 m	12 m (option)	6 m (option)	8 m	12 m (option)	15 m (option)
length	L1	—	9069 mm (357.05")	10949 mm (431.06")	15089 mm (594.06")	8718 mm (343.23")	10648 mm (419.21")	14888 mm (586.14")	17768 mm (699.53")
	L2	5872 mm (231.18")	9032 mm (355.59")	10892 mm (428.82")	15152 mm (596.54")	9294 mm (365.91")	11124 mm (437.95")	15283 mm (601.69")	18244 mm (718.27")
	W (V support)	5818 mm (229.06")				7246 mm (285.28")			
	W (chain (option))	6418 mm (252.68")				7646 mm (301.02")			
	H	2664 mm (104.88")				2954 mm (116.30")			

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
Auto nozzle cleaning
Auto profiler calibration
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*1
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
Automatic cutting conditions determination
Cutting conditions sharing over network
Scheduler
1 set of manuals

*1 3D FABRI GEAR 220 III : ~810 mm (~31.89"), 3D FABRI GEAR 400 III : ~1000 mm (~39.37")

Optional equipment

6 m / 12 m / 15 m loading equipment*2
3 m / 6 m / 12 m / 15 m unloading equipment*3
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)*4
M10 type non-contact profiling type torch for 5" lens (with M10 type nozzle and 5" lens)*5
M5 type non-contact profiling type torch for 5" lens (with M5 type nozzle and 5" lens)*5
Workpiece measurement
Short material carrying function
Horizontal workpiece centering
Small-diameter workpiece support jaws
4" high-pressure gas piping (3.0 MPa supply)
MT connect adapter
QR code reader

*2 15 m loading equipment is for 3D FABRI GEAR 400 III

*3 3 m unloading equipment is for 3D FABRI GEAR 220 III and 15 m unloading equipment is for 3D FABRI GEAR 400 III

*4 3D FABRI GEAR 400 III

*5 3D FABRI GEAR 220 III

3D FABRI GEAR III SERIES



3D FABRI GEAR III
S E R I E S

220 III
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.)
- Unauthorized copying of this catalogue is prohibited.

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

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 piercing time

H beam 300 mm (11.81") cutting

3D FABRI GEAR 400 III
Tapping unit (option) shown.

- 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)]
- Loader / unloader specifications are available to meet your production requirements

3D Laser Processing Machine for Long Tube and Structural Material

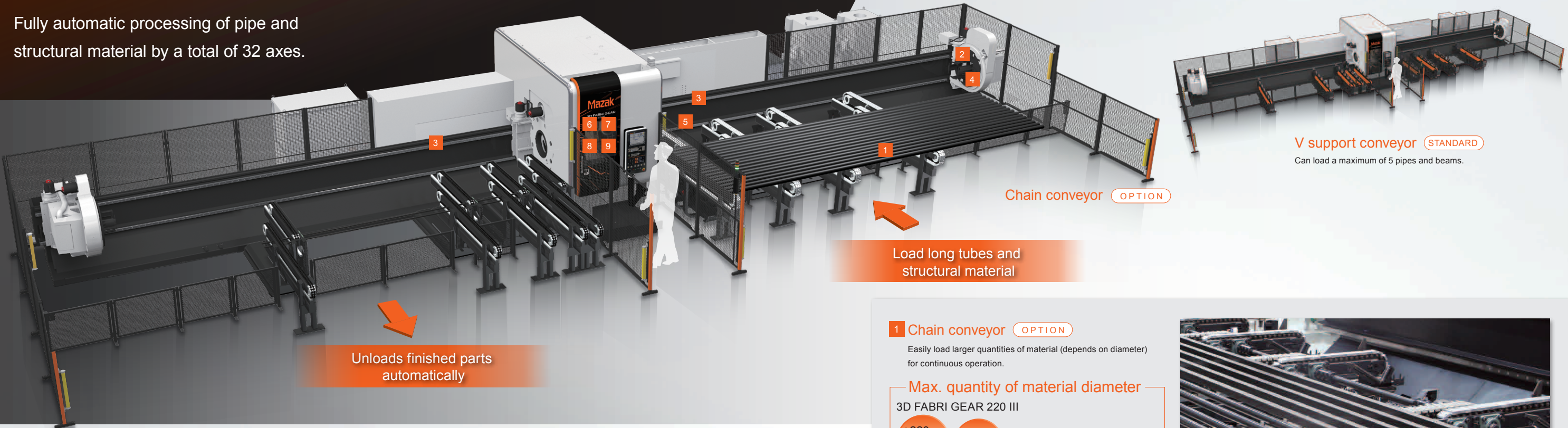
3D FABRI GEAR III SERIES

3D FABRI GEAR 400 III
Chain conveyor (option) shown.

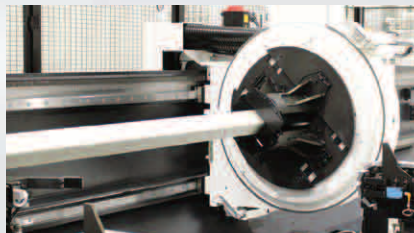
Wide variety of functions for high value and high accuracy cutting

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.



High accuracy cutting of long material



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



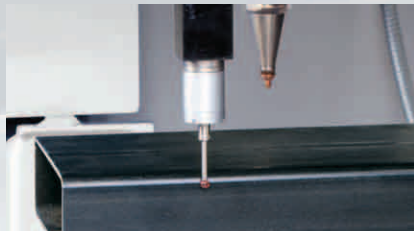
3 Flat support
Flat roller follows the shape of material, so that the material will not sag from its own weight.



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



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

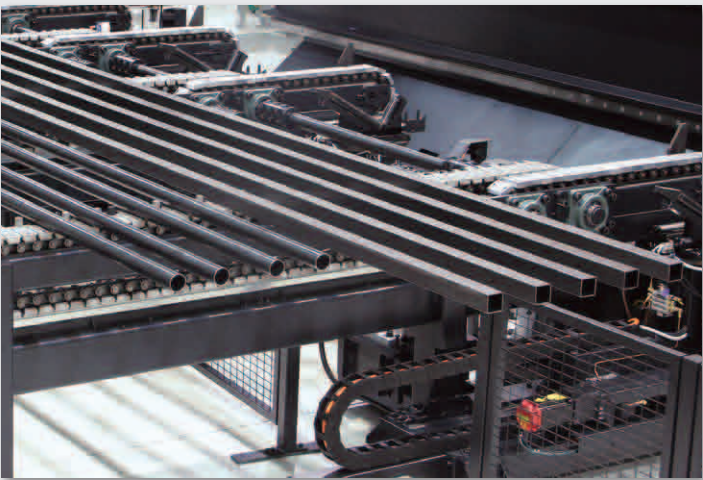


6 Touch sensor **OPTION**
Measures the OD of pipe material and automatically compensates for material distortion to ensure high precision positioning.

1 Chain conveyor **OPTION**
Easily load larger quantities of material (depends on diameter) for continuous operation.

Max. quantity of material diameter

3D FABRI GEAR 220 III				
Φ220 mm (Φ8.66") x 7	Φ150 mm (Φ5.91") x 9	Φ50 mm (Φ1.97") x 18	Φ20 mm (Φ0.79") x 37	
3D FABRI GEAR 400 III				
Φ400 mm (Φ15.75") x 5	Φ300 mm (Φ11.81") x 6	Φ150 mm (Φ5.91") x 11	Φ50 mm (Φ1.97") x 23	Φ20 mm (Φ0.79") 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.

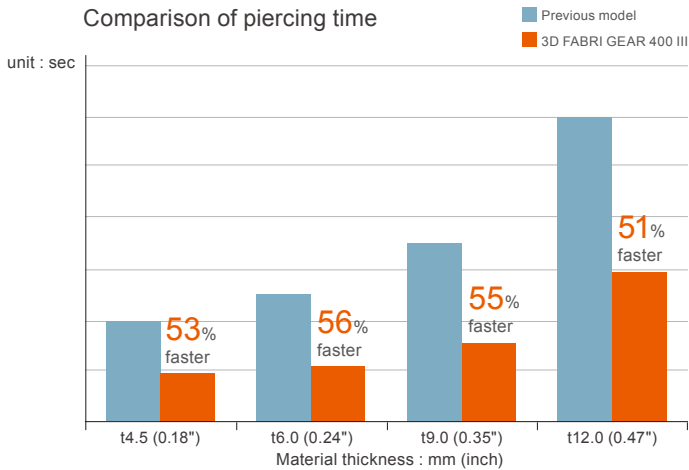


9 Parts catcher
Can catch a finished part up to 1000 mm (39.37") long and remove from machine.
* 3D FABRI GEAR 220 III up to 810 mm (31.89")

► Considerable reduction in piercing time and setup time

Auto focus positioning

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



► 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

		3D FABRI GEAR 220 III				3D FABRI GEAR 400 III			
Model*1		3 m (option)	6 m (option)	8 m	12 m (option)	6 m (option)	8 m	12 m (option)	15 m (option)
Workpiece shape		Round, square, L / H / I beam and channel				Round, square, L / H / I beam and channel			
Workpiece material		Mild steel / Stainless steel				Mild steel / Stainless steel			
Workpiece diameter*2	Round pipe	Φ20 mm ~ Φ220 mm (Φ0.79" ~ Φ8.66")				Φ20 mm ~ Φ406.4 mm (Φ0.79" ~ Φ16.00")			
	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 ~ 152.4 mm × 152.4 mm (0.79" × 0.79" ~ 6.0" × 6.0")				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		—	6250 mm (246.06")	8150 mm (320.87")	12350 mm (486.22")	6180 mm (243.31")	8080 mm (318.11")	12280 mm (483.46")	15180 mm (597.64")
Min. material length for loading		—	2500 mm (98.43")	3450 mm (135.83")	3650 mm (143.7")	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")	1700 mm (66.93")	2200 mm (86.61")	2200 mm (86.61")	3600 mm (141.73")
Max. workpiece weight		135 kg (298 lbs)	270 kg (595 lbs)	360 kg (794 lbs)	510 kg (1124 lbs)	600 kg (1323 lbs)	800 kg (1764 lbs)	1200 kg (2646 lbs)	1200 kg (2646 lbs)
Must not exceed		45 kg/m (99 lbs/39.37")				100 kg/m (220 lbs/39.37")			
Stroke	X Chuck left / right	—	7155 mm (281.69")	9055 mm (356.50")	13255 mm (521.85")	6890 mm (271.26")	8790 mm (346.06")	12990 mm (511.42")	15890 mm (625.59")
	U Chuck left / right	3989 mm (157.05")	7089 mm (279.09")	8989 mm (353.90")	13189 mm (519.25")	7400 mm (291.34")	9300 mm (366.14")	13500 mm (531.5")	16400 mm (645.67")
	V Chuck left / right	1915 mm (75.39")	2315 mm (91.14")			2515 mm (99.02")			
	Y Head back / forth		985 mm (38.78")			1270 mm (50.00")			
	Z Head up / down		370 mm (14.57")			370 mm (14.57")			
	A Head rotation		±99999.999 deg			±99999.999 deg			
	B Head swing		±135 deg			±135 deg			
Max. traverse rate	X, U, V	100 m/min (3937 IPM)				30 m/min (1181 IPM)			
	Y	36 m/min (1417 IPM)				24 m/min (945 IPM)			
	Z	30 m/min (1181 IPM)				24 m/min (945 IPM)			
	A, B	9600 deg/min				9600 deg/min			
	C (Chuck rotation)	20000 deg/min				6000 deg/min			
Machine weight	2.5 kW	—	27200 kg (59965 lbs)	29200 kg (64374 lbs)	33200 kg (73192 lbs)	32700 kg (72090 lbs)	34700 kg (76499 lbs)	38700 kg (85317 lbs)	41700 kg (91931 lbs)
	4.0 kW	—	27500 kg (60626 lbs)	29500 kg (65035 lbs)	33500 kg (73854 lbs)	33000 kg (72751 lbs)	35000 kg (77160 lbs)	39000 kg (85979 lbs)	42000 kg (92593 lbs)
Electrical requirement	2.5 kW / 4.0 kW	64 kVA / 81 kVA				70 kVA / 87 kVA			
Sound*3					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 Equivalent continuous sound pressure level at operator position (dependent on equipment options)

Loader / unloader specifications

		3D FABRI GEAR 220 III		3D FABRI GEAR 400 III	
		V support	Chain (option)	V support	Chain (option)
Max. quantity of material loaded	Φ400 mm (Φ15.75")	—	—	5	5
	Φ300 mm (Φ11.81")	—	—		6
	Φ220 mm (Φ8.66")	5	7		9
	Φ150 mm (Φ5.91")		9		11
	Φ50 mm (Φ1.97")		18		23
	Φ20 mm (Φ0.79")		37		40
Max. total weight capacity of loader / unloader		2550 kg (5622 lbs)	3600 kg (7937 lbs)	6000 kg (13228 lbs)	
Transfer speed		2.5 m/min (98 IPM)		2.5 m/min (98 IPM)	

CNC standard specification

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	2.5 kW / 4.0 kW
Laser gas	He, N ₂ , CO ₂
Laser gas consumption*	10 L/H / 15 L/H

* Continuous operation