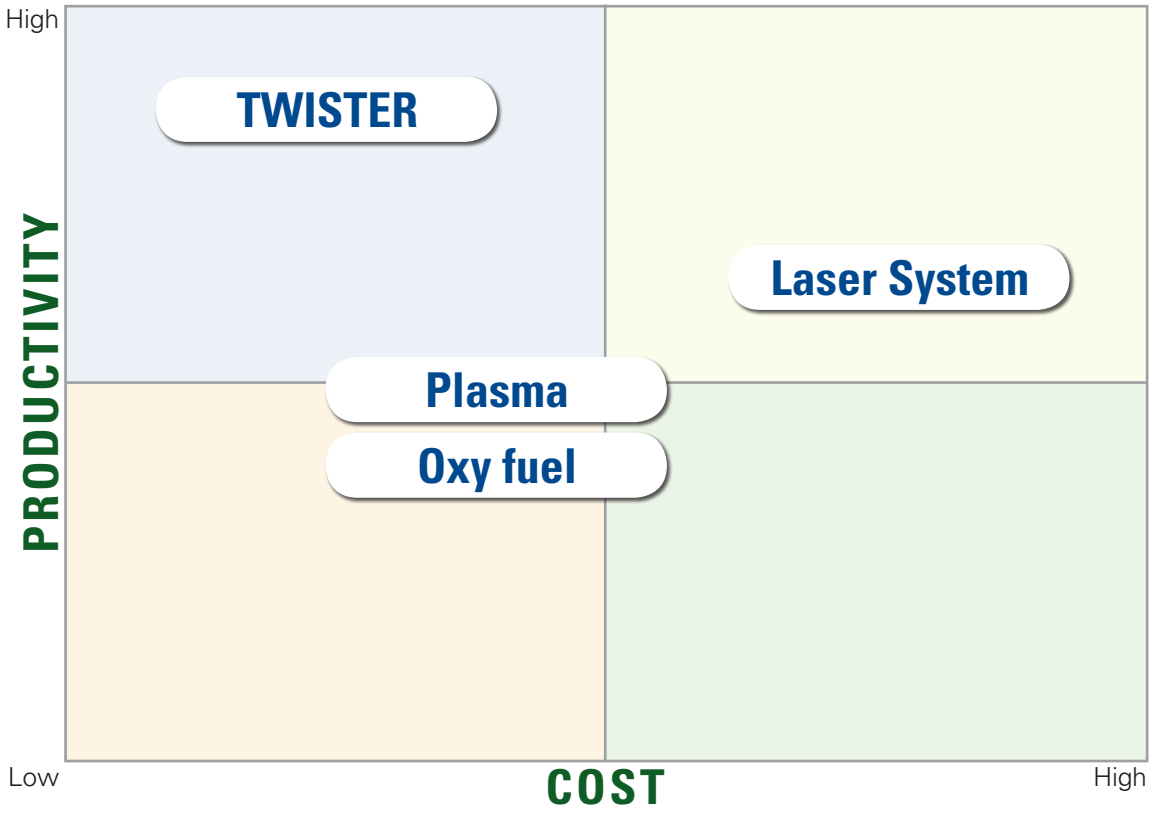
TFP TWISTER SERIES

TWISTER

KOMATSU
TOMORROW'S TECHNOLOGY TODAY

Twister high quality cutting machine with productivity exceeding laser

Production lots and delivery times are indeterminable factors for the manufacturing sector in this age. The key words are “improved order response capability”.



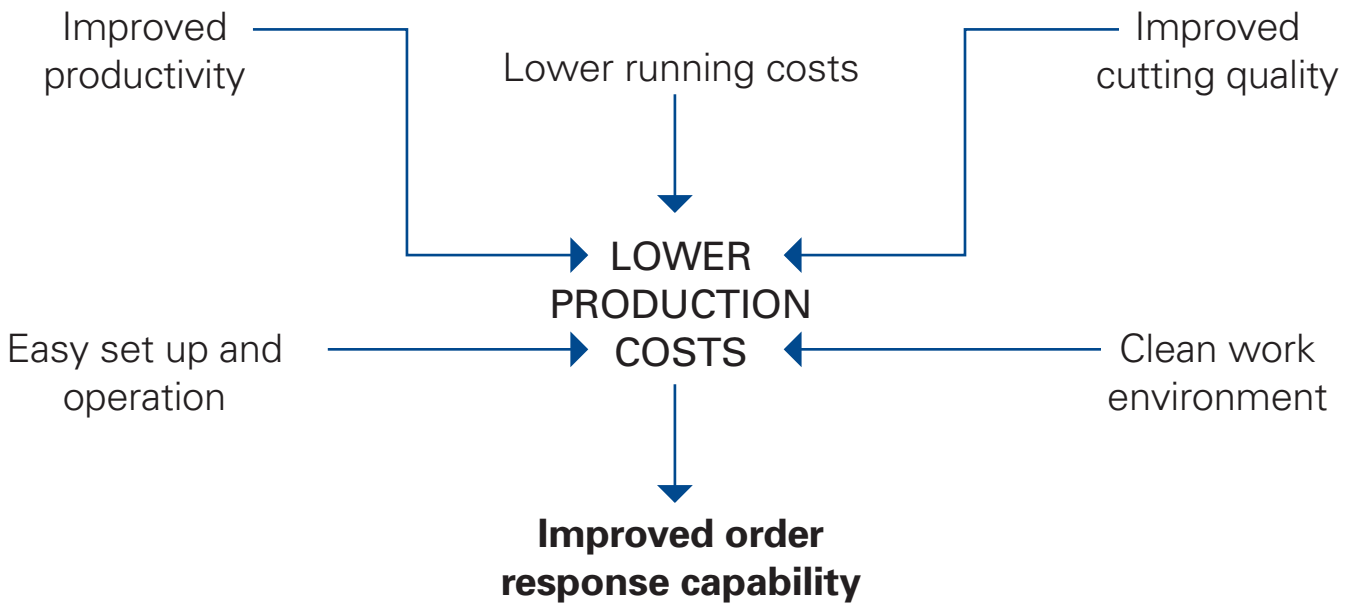
Compared to laser cutting, the Twister achieves overwhelmingly superior productivity and major cost advantages when cutting mid-thickness steel plate.

Features Outstanding Cost and Performance

In addition to the Twister's improved productivity, cost performance and cutting quality in the area of mid-thickness steel plate, the ease of setting up has also been improved. This machine promises vastly improved cutting work.

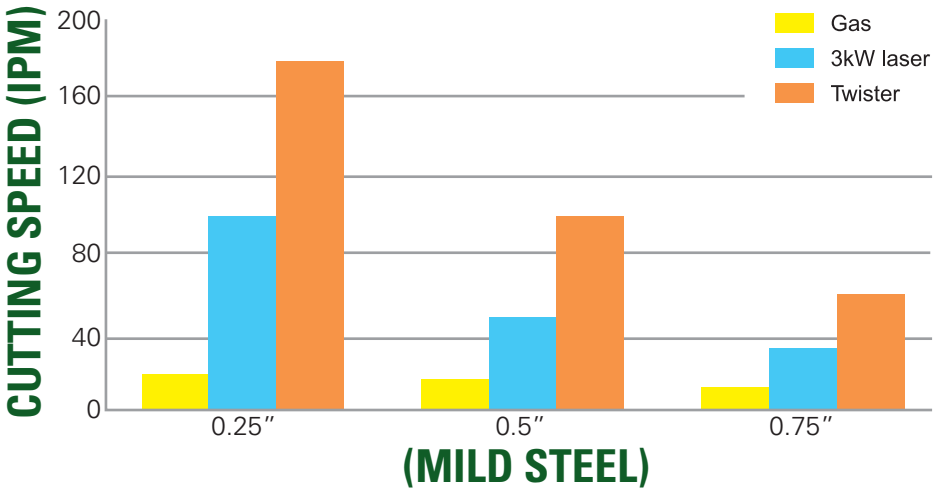
TWISTER TECHNOLOGY!

INNOVATIVE FUNCTIONS AND COST ADVANTAGES



Improved Productivity

Exponential increase in cutting speed thanks to high power unit and high-speed twister gas



Cutting speed has been increased dramatically thanks to 30kW power unit and high-speed twister gas flow. Doubles the cutting speed of a 3kW laser.

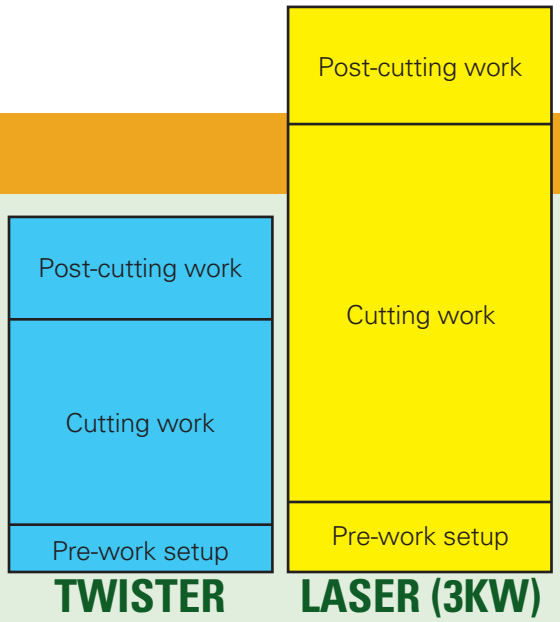
Piercing time shortened with quick pierce

TOTAL PIERCING TIME PER PIERCE

- Conventional – 8 secs
- Touch sensor – 5 secs
- K pierce – 2 secs

Total piercing time has been shortened thanks to high speed touch sensor system and quick pierce which incorporates actions such as gas interchange in the cycle.

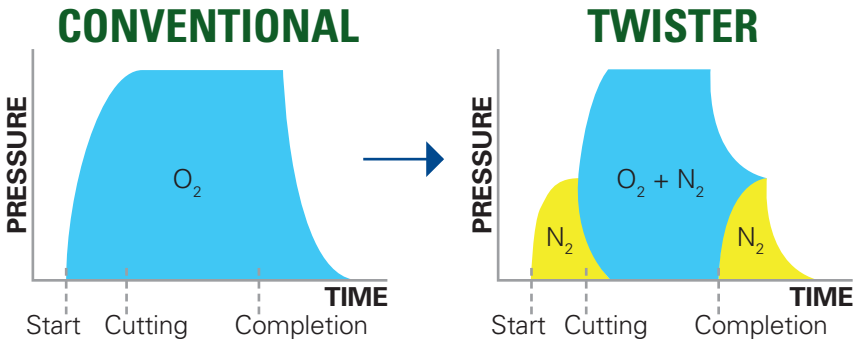
Comparison with laser cutting machine



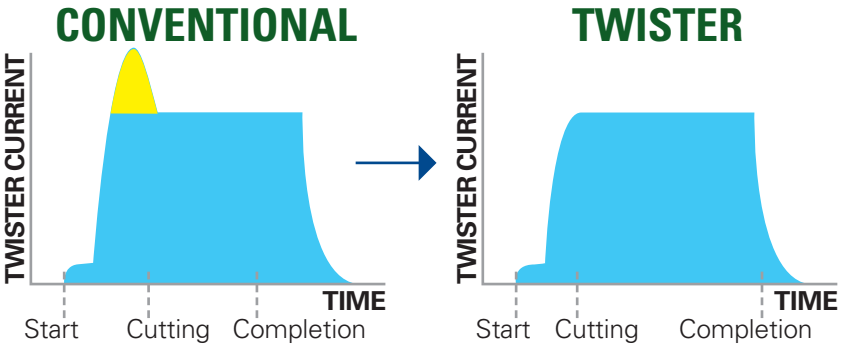
Lower Running Costs

Thanks to the adoption of main gas flow pattern control, the life of consumable parts has been greatly extended

A main gas flow pattern has been adopted which incorporates the advantages of both oxygen and nitrogen. Thus the life of consumable parts has been greatly extended. (US Patent No. 6248972)

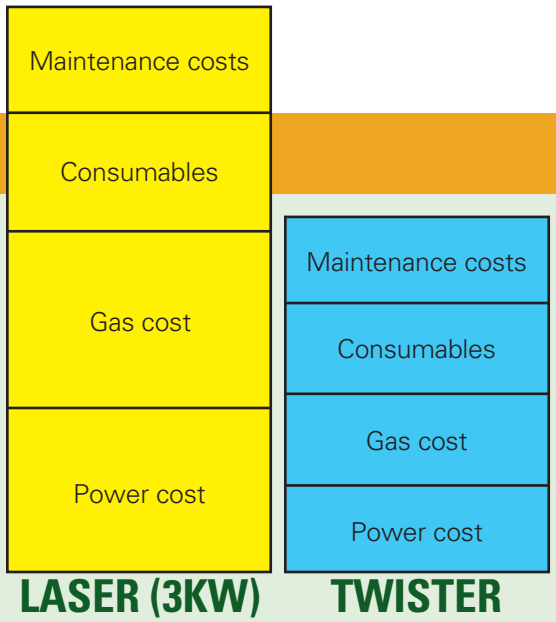


Thanks to the quick arc change, the life of consumable parts has been greatly extended.



Due to the quick arc change, current overshoot on ignition has been greatly minimized. Thus, the life of consumable parts has been greatly extended.
(US Patent No. 6933463)

Comparison with laser cutting machine

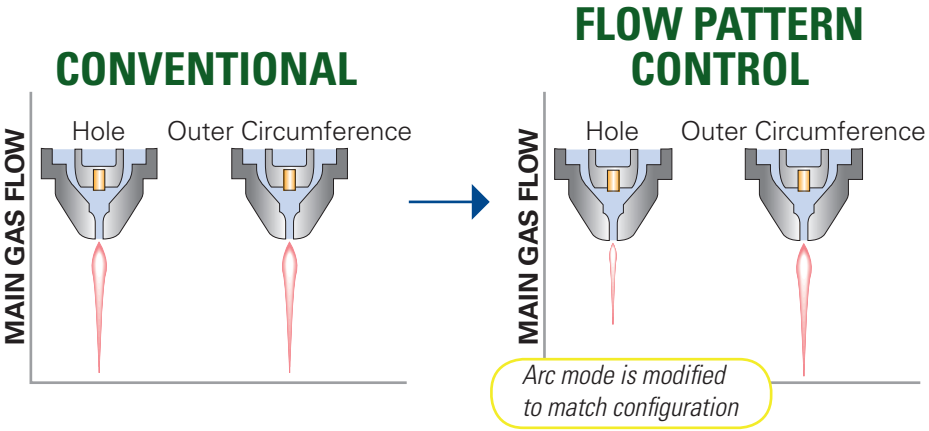


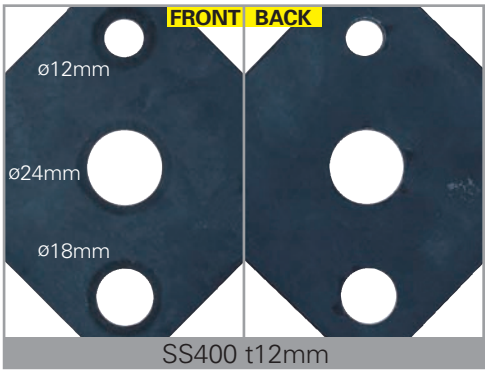
50% reduction in running costs

- 20% cut in total production costs.

Improved Cutting Quality

Cutting quality has been improved by main gas flow control





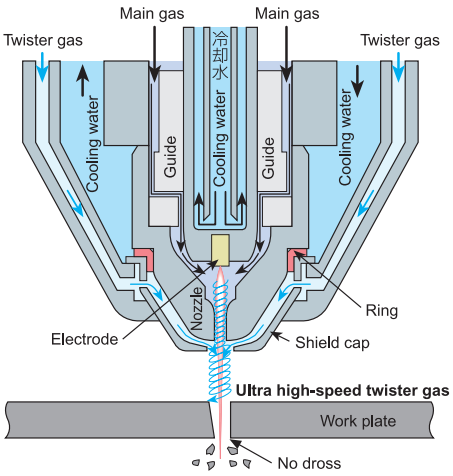
The arc mode has been optimised to configurations by using main gas flow control. This has greatly improved cutting quality. (US Patent No. 6248972)

Deviation between upper and lower hole size reduced thanks to twister gas flow control

The twister gas flow control system ensures optimum gas flow based on configuration. This has reduced the deviation between upper and lower hole size. Cutting accuracy is RANGE 2 with bevel angle less than 2-degrees above 3/8" thickness.

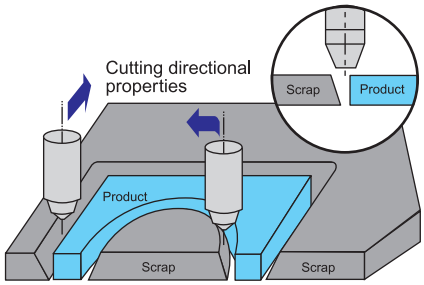
(US Patent No. 6222154)

Twister gas reduces dross



A powerful downward spiral flow around the plasma arc reduces dross.

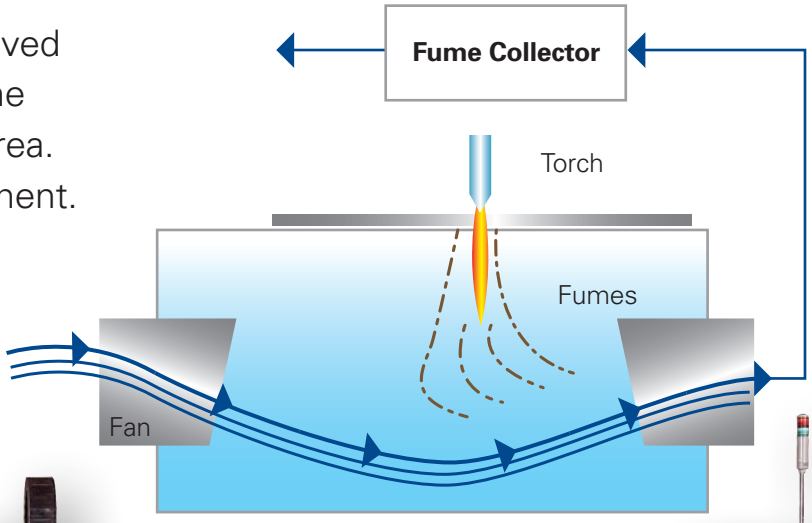
(US Patent No. 6268583, No. 6222154)



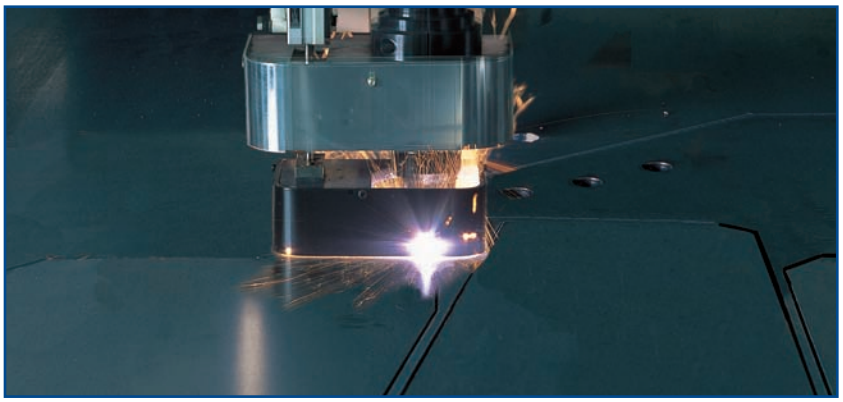
Clean Work Environment

Fume up-flow has been eliminated by a push-pull system and area fume (dust) collector system

Effective fume (dust) collection is achieved by the push-pull system and zoned fume collection system limited to the work area. This greatly improves working environment.
(US Patent No. 6664495)



Spatter splash minimized by the spatter shield



Spatter splash has been greatly reduced during piercing thanks to the spatter shield that is activated while piercing. (Patent Pending)

Easy operation and reduction in processes

QUICK CHANGE TORCH

Shortening of consumable parts replacement time due to the adaption of a quick-change torch

Unitization of consumable parts enables off-line setup. The time required for replacement of consumable parts on site has been greatly reduced.

(US Patent No. 6320156)

WATER BASED ANTI SPATTER SPRAY DISPENSED THROUGH THE TORCH

Torch oil jet reduces consumable parts damage

Water based anti spatter solution is sprayed out from the tip of the torch to the pierce point. Due to this the pierce spatter accumulation is reduced.

CONSUMABLE LIFE MANAGER

Consumable life consumption managed by consumable life manager

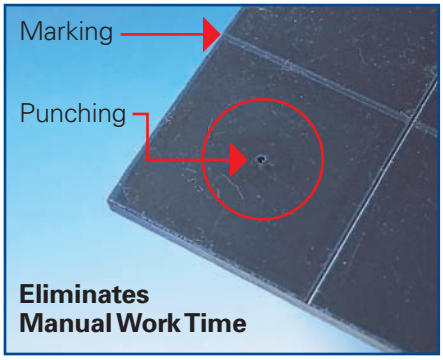
Thanks to the life manager display, anyone can make a decision on the service life of the consumable parts.

(US Patent No. 6933462)

AUTOMATIC MARKING/ PUNCHING

Fully automated marking and (center) punching using an arc marker

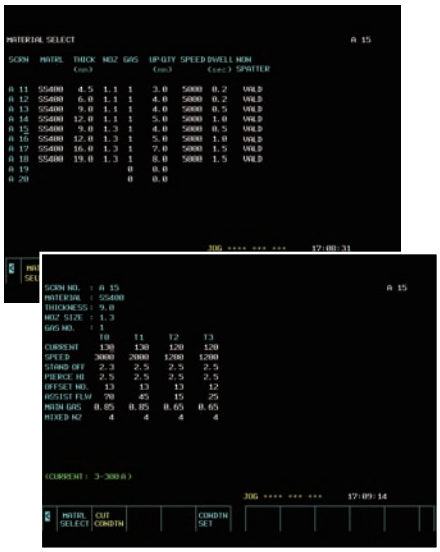
Marking and punching can be incorporated in the cutting process. The switch over to cutting is done automatically.



TECHNOLOGY TABLE

Optimal work conditions automatically set by technology table

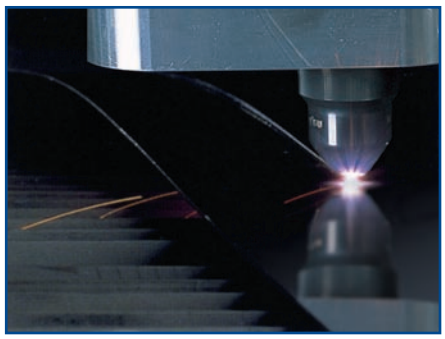
Work can be started at the press of a button. Troublesome adjustment is absolutely unnecessary.



ARC VOLTAGE CONTROL

Cutting stabilization using AVC function

Arc Voltage Controller is equipped to maintain precise cutting height.

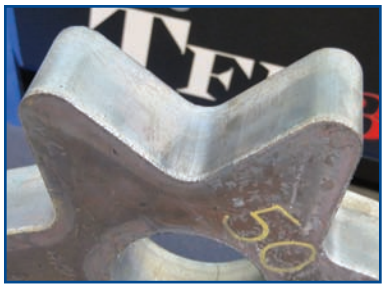


Streamlined work processes achieved thanks to Komatsu's original flexible technology

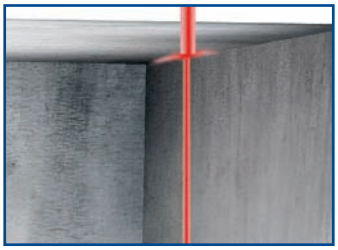
Quick Gas with Laser Pointer

In less than 1 minute, switch from Fine Plasma cutting 1″ to Oxy cutting 2″ thick plate by simply changing the nozzle. Twister technology maintains quality edge finish with less dross than any other plasma cutter. The Laser Pointer easily shows the start point.

Quick Nozzle Change

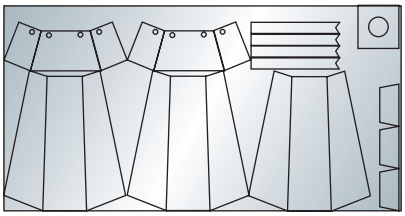


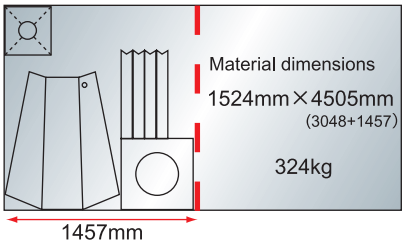
Laser Pointer targets exact position



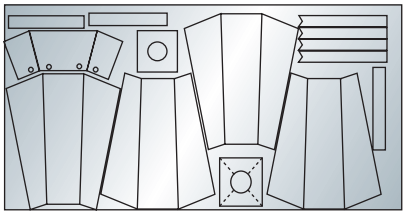
Reducing material costs

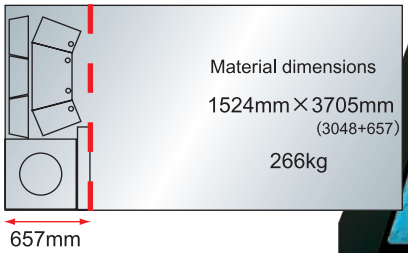
RECTANGULAR NESTING

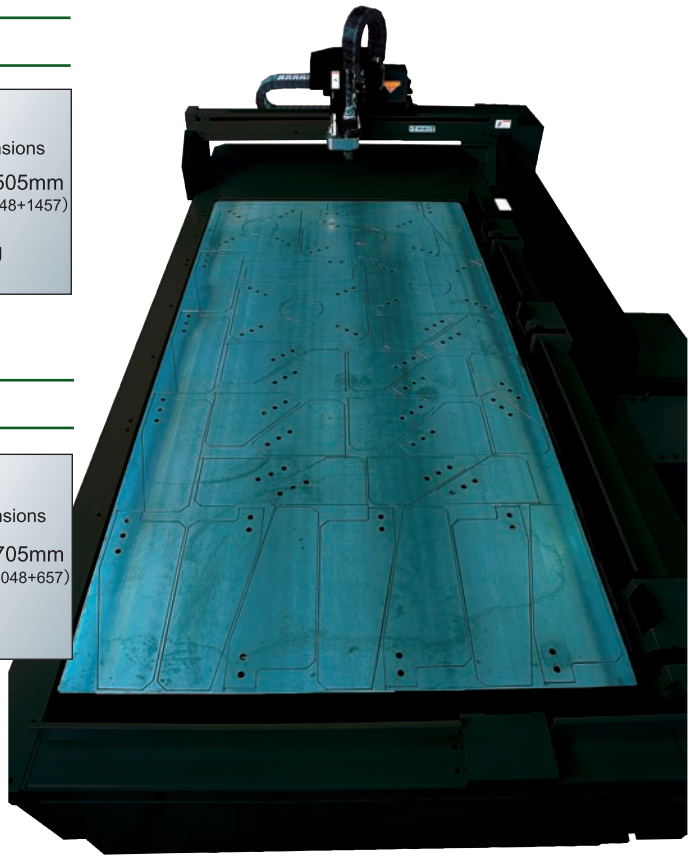




AUTOMATED NESTING





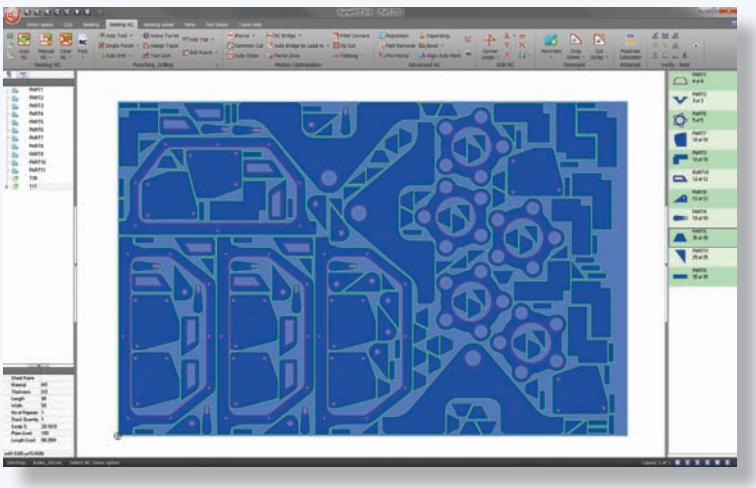


SIGMANEST or Rasor Nest Software

SigmaNEST®: Nest with the BEST™

Powered by the industry's newest and most advanced CAD/CAM nesting engine, SigmaNEST delivers measurable and sustained results. SigmaNEST ensures superior material utilization, machine motion optimization, and part quality balanced with cutting speed, work flow integration, material handling, accurate estimates and information management.

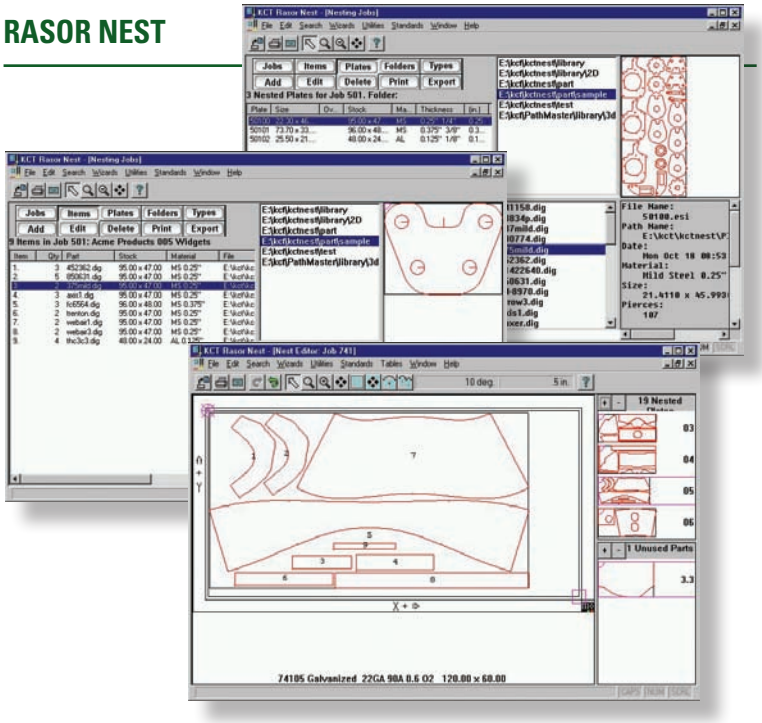
The leading CAD/CAM nesting system for plasma, laser, punch, oxyfuel, waterjet, router, knife, tube/pipe and combination cutting machines, SigmaNEST is scalable to meet your growing needs and flexible enough to program multiple machines.



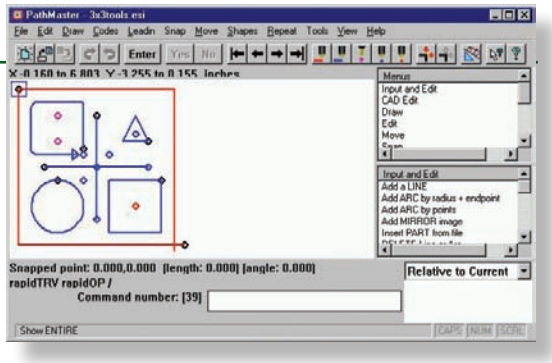
This software package is available for Windows98SE up to Windows 7 computers. The Rasor™ Nest Application V4.0 automatically groups NC part files together (nest) into one or more files to more efficiently use material. It can be used with the Rasor Rev controller files, the original Rasor NC files, PathMaster files, Twister NC Files, or KPCL NC Files.

Also included are a Nest Editor and an NC Converter. The Nest Editor allows manual modification of nested plate files. The NC Converter converts between some NC and CAD file formats and can be used as a post processor for Twister and Rasor products.

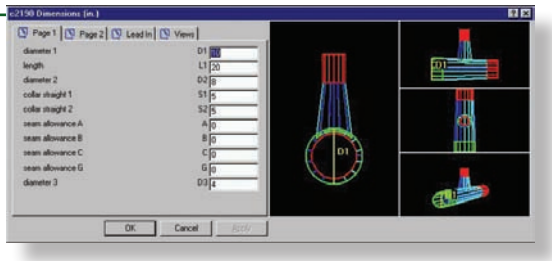
RASOR NEST



PATHMASTER



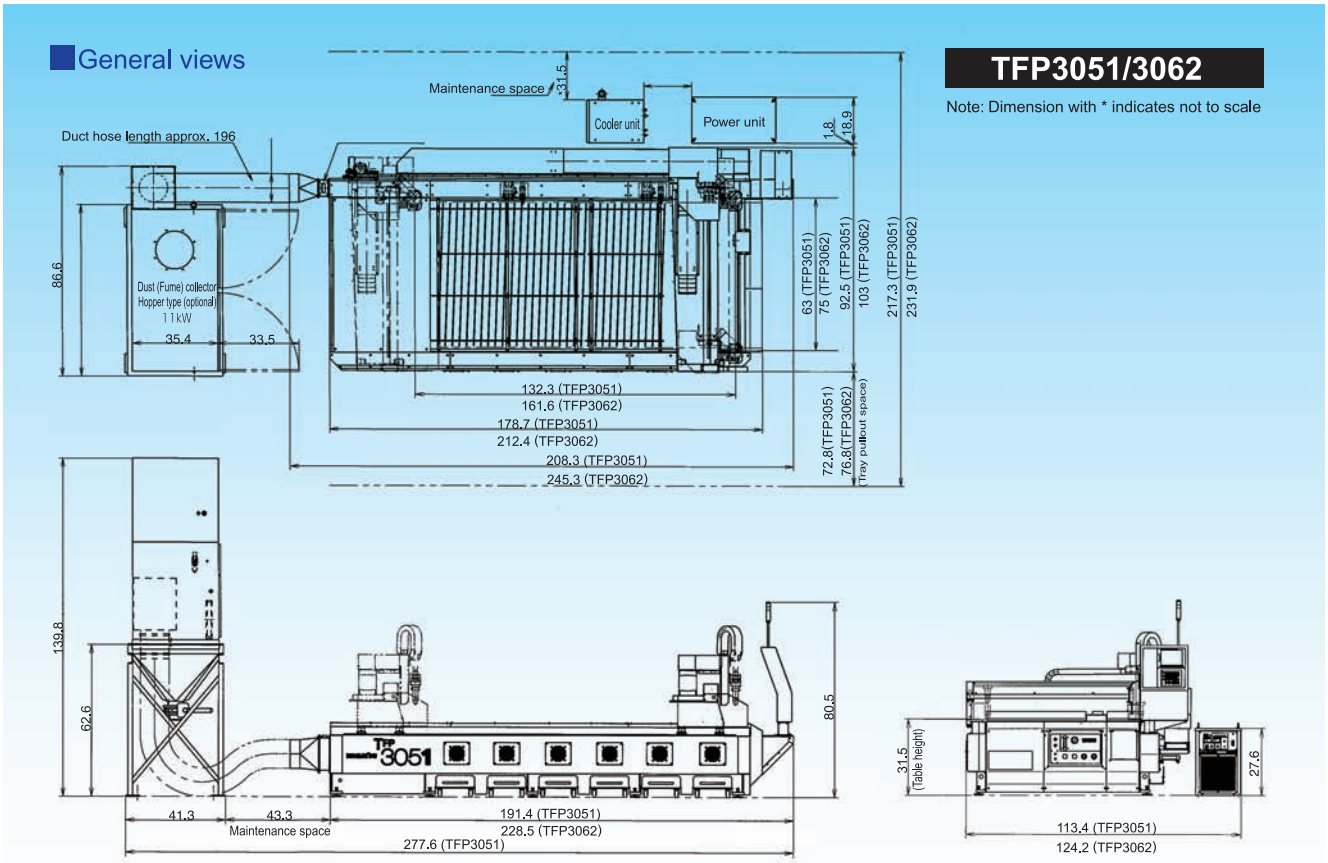
SOFTOOL 3D LIBRARY



Specifications

TFP Series

General views



Main specifications

Item		Model	TFP3051	TFP3062
Twister output power		kW	30	
Max. material thickness(Mild steel)		in.	1.0	
Max. pierce thickness(Mild steel)		in.	1.0	
Cutting area dimension (Y-X)		in.	60 x 120	72 x 144
Stroke	X-axis	in.	132.3	161.6
	Y-axis	in.	63	75
	Z-axis	in.	6.7	
Traverse speed	X-axis	IPM	984	1772
	Y-axis	IPM	1575	1772
	Z-axis	IPM	394	1181
Driving method	X, Y -axis		Rack & pinion + Linear guide	
	Z-axis		Ball-screw + Linear guide	
Positioning accuracy		in.	±0.004	
Positioning repeatability		in.	±0.001	
Controller			FANUC-0i-MD	

Main Functions and Options

● : Standard ○ : Optional

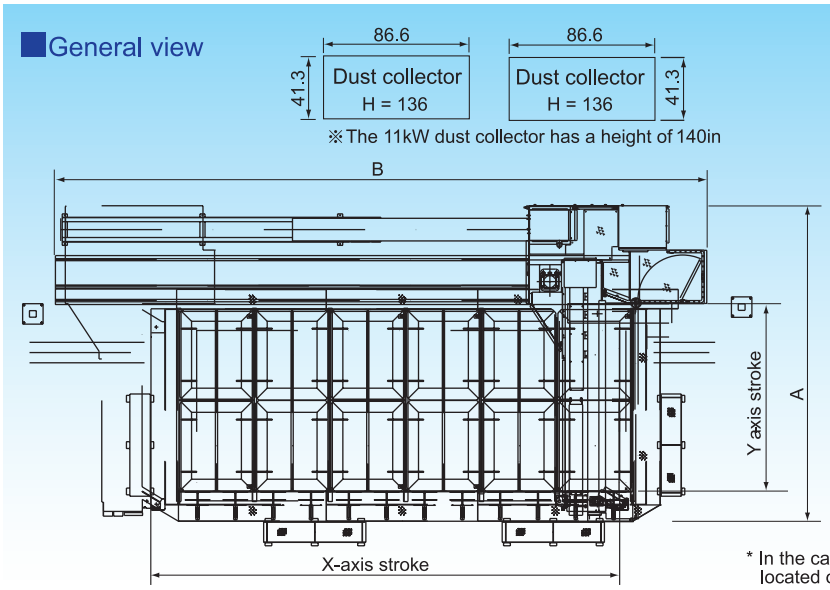
Retractable positioning stopper	●	
SUS nitrogen cutting function	●	
Manual clamper	○	–
Quick silver (Stainless cutting)	●	
Fume collector (11kW/with duct)	○	

● *Materials and specifications are subject to change without notice.*

TFPL Series (Twister TFPL series)

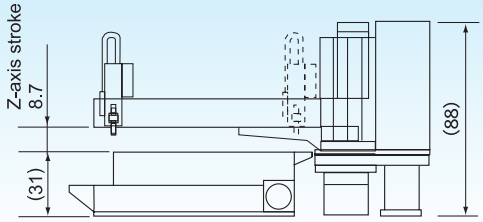
Specifications

General view



※This is one example of peripheral machinery layout.
※A safety area of 20in is required around the cutting machine. A height of 24in above the top of the fume collector is required as an exhaust area.

	TFPL6082 TFPL3082	TFPL6084 TFPL3084	TFPL6012 TFPL3012	TFPL6014 TFPL3014
A	192.9	192.9	216.5	216.5
B	376	620	376	620



* In the case of the 30kW Twister (TFPL30**), the Twister power unit is located on the machine.

Main specifications

Item		Model	TFPL6082	TFPL6084	TFPL6012	TFPL6014	TFPL3082	TFPL3084	TFPL3012	TFPL3014
Twister output power		kW	60				30			
Twister power unit rated utilization		%	100				100			
Max. material thickness(Mild steel)		in.	1.5				1.0			
Max. pierce thickness(Mild steel)		in.	1.5				1.0			
Cutting area dimension (Y-X)		in	98 x 244	98 x 484	122 x 244	122 x 484	98 x 244	98 x 484	122 x 244	122 x 484
Stroke	X-axis	in.	267.7	511.8	267.7	511.8	267.7	511.8	267.7	511.8
	Y-axis	in.	102.3		126		102.3		126	
	Z-axis	in.	8.7							
Traverse speed	X-axis	IPM	787							
	Y-axis	IPM	1575							
	Z-axis	IPM	787							
Driving method	X, Y -axis		Rack & pinion + Linear guide							
	Z-axis		Ball-screw + Linear guide							
Positioning accuracy		in.	± 0.006/12							
Positioning repeatability		in.	±0.004							
Controller			FANUC-0iM							

Main Functions and Options

● : Standard ○ : Optional

	TFPL6082	TFPL6084	TFPL6012	TFPL6014	TFPL3082	TFPL3084	TFPL3012	TFPL3014
Safety devices (Light curtain type, contact type)	●							

● *Materials and specifications are subject to change without notice.*
● *For a better understanding of the mechanism, the photographs in the brochure show the Twister without the spatter guard shield in place.*

KOMATSU
TOMORROW'S TECHNOLOGY TODAY

Komatsu America Industries, LLC
1701 Golf Road Suite 1-100 ◆ Rolling Meadows, IL 60008
Phone: 847-437-3888 ◆ Fax: 847-437-1811
www.komatsuplasma.com