

TANAKA

LASER SERIES

Leading the Way in Exceeding Customer Expectation

TANAKA

NISSAN TANAKA CORPORATION
11CHIKUMAZAWA, MIYOSHI-MACHI, IRUMAGUN,
SAITAMA 354-8585, JAPAN
Tel : +81-49-258-4412
overseas@nissantanaka.com
<http://nissantanaka.com/english/>



Saitama factory is certified as ISO 9001 factory.
Registration No.: 99QR • 156
Scope of product/service : GAS CUTTING MACHINE
PLASMA CUTTING MACHINE
and LASER CUTTING MACHINE

Saitama Site (Head Office, Saitama Factory) are certified as ISO14001
Registration No. : 05ER • 553
Activities Defined by Products, Processes or Services:
1. Manufacturing and After-sale Service of Laser Processing,
Oxy-Fuel Cutting and Plasma Cutting Systems.
2. Manufacturing of Gas Welding and Gas Cutting Apparatus.
3. Manufacturing of Gas Control Products.
Design and specifications subject to change without notice.

2020.10.2000.NPC



Global standard laser technology

TANAKA FMRII, FMZII, LMRV, LMZV and Mach/Wind are world-class laser cutting machines. These machines achieve extended operation hours with stable and excellent cutting quality.



As a pioneer of the world laser industry

TANAKA started basic research for the practical use of laser in metal processing in 1969. In 1979, TANAKA completed the first laser cutting machine in the industry. Furthermore in 1989, TANAKA introduced the world's first "Oscillator integrated type laser cutting machine for medium thick plates" into the market. This was a ground-breaking laser cutting machine at that time. Since then, TANAKA has continued building up a steady position in the steel industry as a leading company of laser cutting machines including a total automation system from loading of material, to processing, manufacturing management and delivery. TANAKA will continue developing the laser cutting technology for all of the customer's requirements.

TANAKA laser system history

	1969	Started research and development of laser processing technology	
	1989	Launched the world's first oscillator integrated laser cutting machine, LMX-TF2500 into a market	
	1994	Launched the first 6kW oscillator integrated laser cutting machine, LMXII-TF3500/6000	
	1997	Established high-speed, high precision and high-power more than conventional, laser cutting machine, LMXIII-TF3500/6000	
	2001	Launched the world's first twin head laser cutting machine, LMXV-TWIN TF4000	
	2004	Introduced the high-power, long-time operable laser cutting machine mounted with the brand new 6kW oscillator, LMXVII-TF4000/6000	
	2010	Introduced the compact body laser cutting machine mounted with 6kW oscillator LMRV-TF2000/TF4000/TF6000	
	2012	No.1 Gantry Laser Sales Record, Advanced Bevel Laser Cutting Machine Reborn! LMZV-TF4000/6000	
	2015	Launched the next generation Fiber Laser Cutting Machine! FMRII-TF3000/TF6000/TI10000	
	2017	Launched the Advanced Bevel Fiber Laser Cutting Machine FMZII-TI10000	
	2019	Introduced the 12kW fiber laser cutting machine FMRII-TF12000	
	2020	Introduced the 20kW fiber laser cutting machine FMRII-TI20000	



TANAKA laser cutting machine contributes to the various kind of industry all over the world.



Gantry Fiber Laser Cutting Machine
TF6000 T112000 T120000

The Most Powerful Fiber Laser Cutting Machine Ever

TANAKA FMR II has now the capability of having a 20kW fiber laser oscillator and is cutting thicker material than ever. TANAKA's original torch head and gas control technology creates excellent cut quality. That combined with optimized cutting sequence and fiber laser performance provides high productivity. FMR II series is now the most powerful ever!



Machine specification

Model	25	30	35	40	45	50	55						
Effective cutting width mm(feet)	2,600mm(8.5')	3,100mm(10.1')	3,600mm(11.8')	4,100mm(13.4')	4,600mm(15.0')	5,100mm(16.7')	5,600mm(18.3')						
Rail span mm(feet)	3,500mm (11.4')	3,800mm (12.4')	4,000mm (13.1')	4,300mm (14.1')	4,500mm (14.7')	4,800mm (15.7')	5,000mm (16.4')	5,300mm (17.3')	5,500mm (18.0')	5,800mm (19.0')	6,000mm (19.6')	6,500mm (21.3')	7,000mm (22.9')
Effective cutting length mm(feet)	Rail length - 3,000mm(9.8')*												
NC device	FANUC 31iLB PANELi												

* Rail length can be extendable as per 1,200mm (3.9').

Speed specification

Processing feed speed (inch)	1 ~ 24,000mm/min (0.03" ~ 944.88"/min)
Hi-rapid feed speed (inch) [Option]	60,000mm/min (2362.20"/min)
Rapid feed speed (inch)	36,000mm/min (1417.32"/min)
Manual rapid feed speed (inch)	24,000mm/min (944.88"/min)
Cutting head up/down speed (inch)	20,000/15,000mm/min (787.40"/590.55"/min)
Home return speed (inch)	24,000mm/min (944.88"/min)

Standard cutting specification

Model	TF6000	T112000	T120000
Mild steel mm(inch) Pulse / CW *1	32mm(1.25") / 19mm(0.74")	38mm(1.5") / 28mm(1.1")	60mm(2.36") / 36mm(1.41")
Stainless steel mm (inch) *2	20mm(0.75")	30mm(1.42")	30mm(1.42") *3
Aluminum steel mm (inch) *2	20mm(0.75")	30mm(1.42")	30mm(1.42") *3

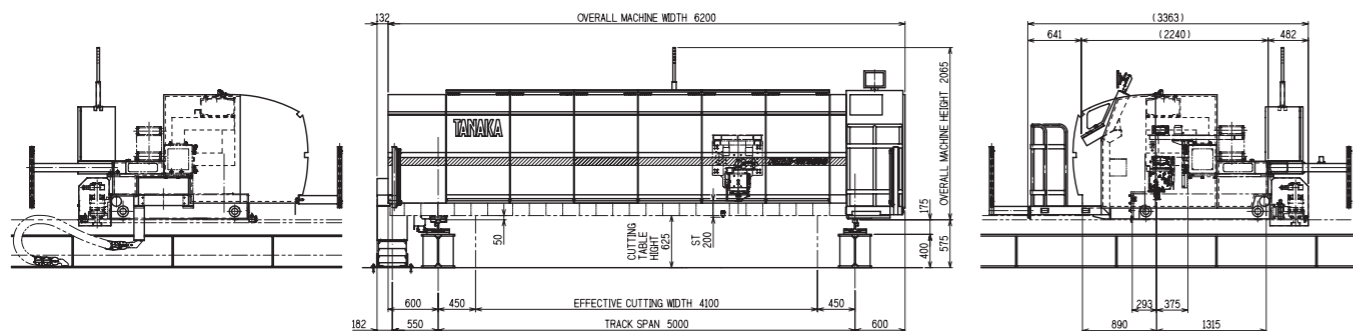
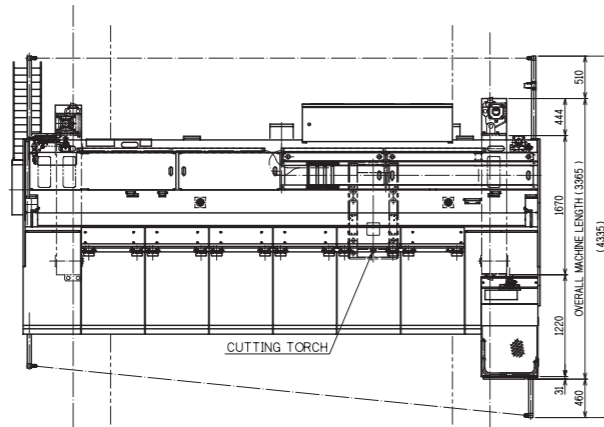
Cutting specification is reference data.

*1 CW: Continuous Wave

*2 Dross may be adhere in a certain thickness and conditions.

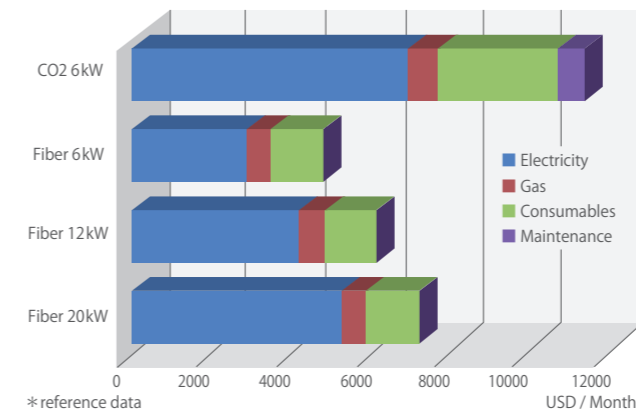
*3 Under validation

FMR II 40-T120000



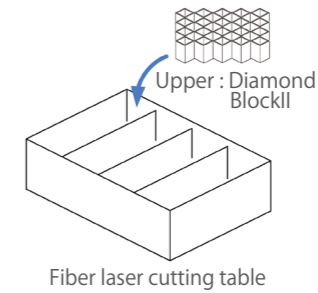
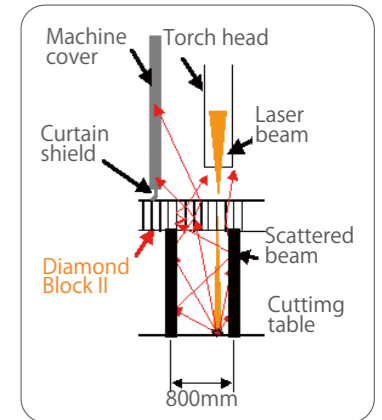
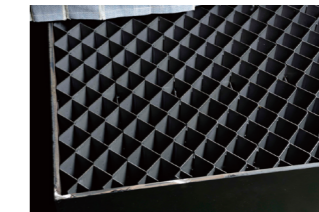
Low operation cost compared to CO2 laser

Low Power Consumable / Low Maintenance / Low Consumable Parts



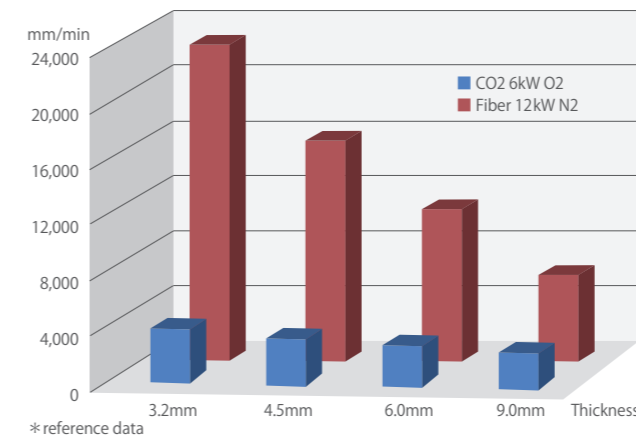
* reference data

Improve Safety and Work



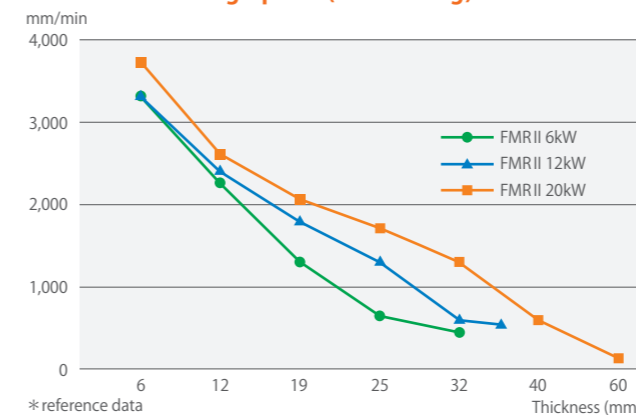
Mild Steel Cutting Speed (Thin Material)

Dramatically Faster than Conventional Way



* reference data

Mild Steel Cutting Speed (O2 Cutting)



* reference data

Optional Equipment

Pallet Changer Stocker



* The figures are subject to change in case of adding functions.

Advanced Bevel Fiber Laser Cutting Machine

TANAKA's redesigned bevel laser cutting machine is leading the industry. It optimizes TANAKA's powerful fiber laser technology with cutting sequences, torch design, gas flow and cooling system. There are also safety cameras inside and behind the machine. The machine is now more advanced and is able to cut thicker and faster with excellent quality.



Machine specification

Model		25	30	35	40	45	50
Effective cutting width mm(feet)	Bevel	2,300mm(7.5')	2,800mm(9.1')	3,300mm(10.8')	3,800mm(12.4')	4,300mm(14.1')	4,800mm(15.7')
	Vertical	2,600mm(8.5')	3,100mm(10.1')	3,600mm(11.8')	4,100mm(13.4')	4,600mm(15.0')	5,100mm(16.7')
Rail span mm(feet)	4,000mm	4,300mm	4,500mm	4,800mm	5,000mm	5,300mm	5,500mm
	(13.1')	(14.1')	(14.7')	(15.7')	(16.4')	(17.3')	(18.0')
Effective cutting length mm(feet)		Rail length - 4,000mm(13.1')*					
NC device		FANUC 30iLB PANELi					

* Rail length can be extendable as per 1,200mm (3.9').

Speed specification

Processing feed speed (inch)	1 ~ 24,000mm/min (0.03"~944.88"/min)
Rapid feed speed (inch)	36,000mm/min (1417.32"/min)
Manual rapid feed speed (inch)	12,000mm/min (472.44"/min)
Cutting head up/down speed (inch)	20,000mm/min (787.40"/min)
Home return speed (inch)	24,000mm/min (944.88"/min)

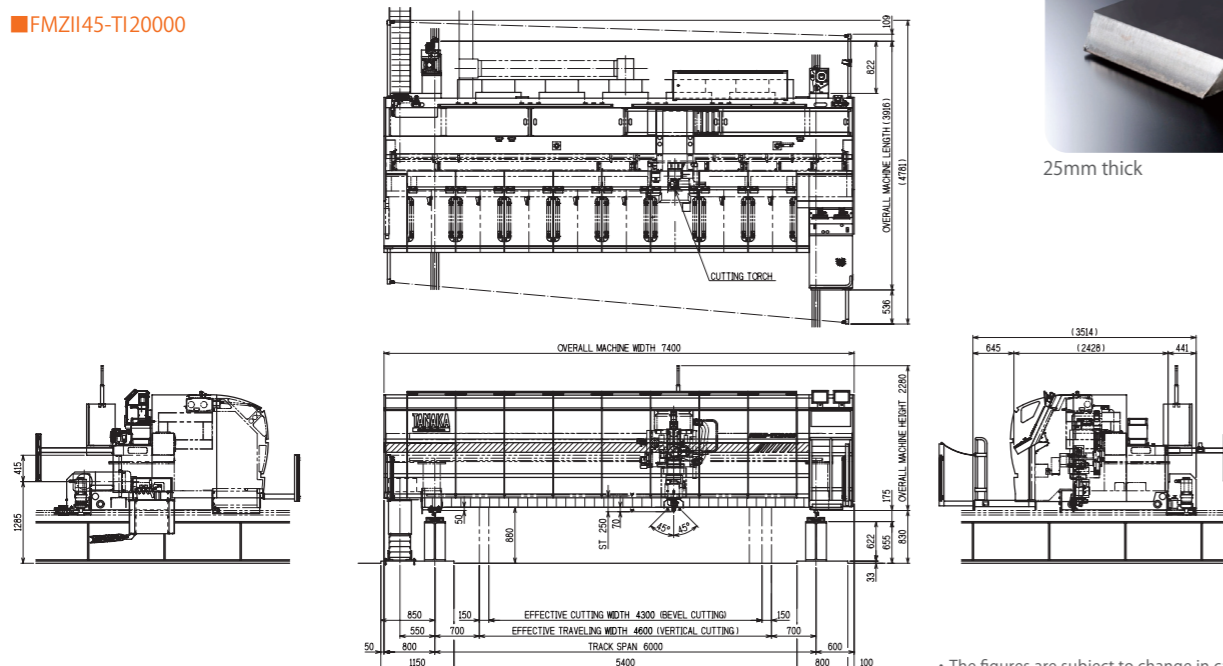
Standard cutting specification

Model		TF6000	T112000	T120000
Mild steel material mm(inch)	Vertical	32mm(1.25")	36mm(1.41")	38mm(1.5")*
	Top/bottom V bevel 30deg	16mm(0.6")	28mm(1.1")	36mm(1.41")*
	Top/bottom V bevel 45deg	12mm(0.5")	28mm(1.1")	32mm(1.25")*

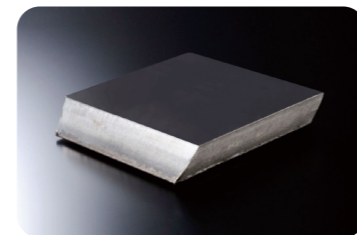
Cutting specification is reference data.

*Under validation.

FMZII45-T120000



12mm thick



25mm thick

* The figures are subject to change in case of adding functions.

Built on Years of CO2 Laser Cutting Machine Experience

TANAKA's laser technology with years of experience built the finest CO2 laser cutting machines, LMRV and LMZV series. It is about creating superior cutting quality for both straight and bevel cutting. The machine is versatile with improved beam quality, TANAKA's latest original cutting torch and spacious horizontal plate staging to ensure the machine is customized for each customer's expectation.



LMRV

Machine specification

Model	25	30	35	40	45	50	55
Effective cutting width mm(feet)	2,600mm (8.5')	3,100mm (10.1')	3,600mm (11.8')	4,100mm (13.4')	4,600mm (15.0')	5,100mm (16.7')	5,600mm (18.3')
Rail span mm (feet)	3,500mm (11.4')	3,800mm (12.4')	4,000mm (13.1')	4,300mm (14.1')	4,500mm (14.7')	4,800mm (15.7')	5,000mm (16.4')
Effective cutting length mm (feet)	Depends on customer's requirement						
Rail size	50kg/m(33.6 lb/ft)						
Rail length mm (feet)	Effective cutting length +3,000mm (9.8')						
Vertical stroke mm (feet)	200mm (0.65')						
Overall machine length mm (feet)	3,130mm (10.2')						
Overall machine width mm (feet)	4,530mm (14.8')	4,830mm (15.8')	5,030mm (16.5')	5,330mm (17.4')	5,530mm (18.1')	5,830mm (19.1')	6,030mm (19.7')
Overall machine height mm (feet)	LMRV25~35: 2,475mm(8.1') / LMRV40~55: 2,575mm(8.4')						

Standard cutting specification

Model		TF2000	TF4000	TF6000
Mild steel material mm(inch)		19mm (0.74")	22mm (0.86")	32mm (1.25")
Stainless steel material	<1MPa	Normal	8mm(10mm)/0.31" (0.39")	10mm(12mm)/0.39" (0.47")
	≥1MPa	Normal	-	16mm(20mm)/0.62" (0.78")
	High Quality mm(inch)	-	-	25mm (0.98")

Speed specification

Processing feed speed (inch)	1 ~ 6,000mm/min (0.03"~236.22"/min)
Rapid feed speed (inch)	24,000mm/min (944.88"/min)
Manual rapid feed speed (inch)	12,000mm/min (472.44"/min)
Cutting head approach speed (inch)	20,000mm/min (787.40"/min)
Cutting head lifting speed (inch)	15,000mm/min (590.55"/min)
Home return speed (inch)	24,000mm/min (944.88"/min)

Figures in parenthesis show cutting specification in separation cutting. Sometimes dross adheres. Check it with a sample.

LMZV

Machine specification

Model	25	30	35	40	45	50
Effective cutting width mm (feet)	2,600mm (8.5')	3,100mm (10.1')	3,600mm (11.8')	4,100mm (13.4')	4,600mm (15.0')	5,100mm (16.7')
Rail span mm (feet)	4,000mm (13.1')	4,300mm (14.1')	4,500mm (14.7')	4,800mm (15.7')	5,000mm (16.4')	5,300mm (17.3')
Effective cutting length mm (feet)	Depends on customer's requirement					
Rail size	50kg/m(33.6 lb/ft)					
Rail length mm (feet)	Effective cutting length +3,500mm (11.4')					
Vertical stroke mm (feet)	250mm (0.82')					
Overall machine length mm (feet)	3,500mm (11.4')					
Overall machine width mm (feet)	4,930mm (16.1')	5,430mm (17.8')	5,930mm (19.4')	6,330mm (21.7')	7,030mm (23.0')	7,730mm (25.3')
Overall machine height mm (feet)	2,680mm (8.7')					

Standard cutting specification

Model		TF4000	TF6000
Mild steel material	Vertical cutting mm(inch)	22mm (0.86")	32mm (1.25")
	Top/bottom V bevel 30 deg mm(inch)	12mm (0.47")	16mm (0.62")
	Top/bottom V bevel 45 deg mm(inch)	9mm (0.35")	12mm (0.47")
Stainless steel material	<1MPa	Vertical cutting	10mm(12mm)/0.39" (0.47")
	Vertical cutting	16mm(20mm)/0.62" (0.78")	20mm(28mm)/0.78" (1.10")
	Top/bottom V bevel 22.5 deg mm(inch)	-	12mm (0.47")
	High Quality mm(inch)	-	20mm (0.78")

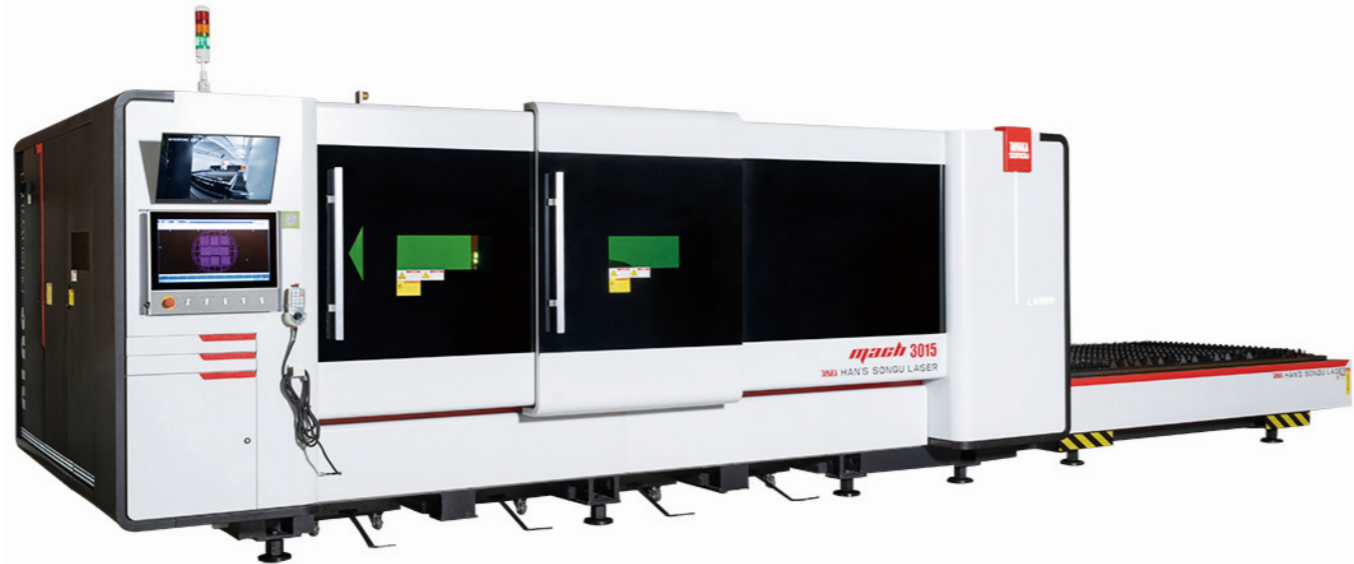
Figures in parenthesis show cutting specification in separation cutting. Sometimes dross adheres. Check it with a sample.

Speed specification

Processing feed speed (inch)	1 ~ 6,000mm/min (0.03"~236.22"/min)
Rapid feed speed (inch)	24,000mm/min (944.88"/min)
Manual rapid feed speed (inch)	12,000mm/min (472.44"/min)
Cutting head approach speed (inch)	20,000mm/min (787.40"/min)
Cutting head lifting speed (inch)	15,000mm/min (590.55"/min)
Home return speed (inch)	24,000mm/min (944.88"/min)

* The figures are subject to change in case of adding functions.

Customize HAN'S SONGU laser cutting machine to TANAKA specification.
HAN'S SONGU is one of the best laser cutting machine manufacture in China.



1. TANAKA brand

- Machine installation and service are operated by TANAKA Engineer or our distributor.
- Able to use existing TANAKA's NC data.

2. High speed & High quality

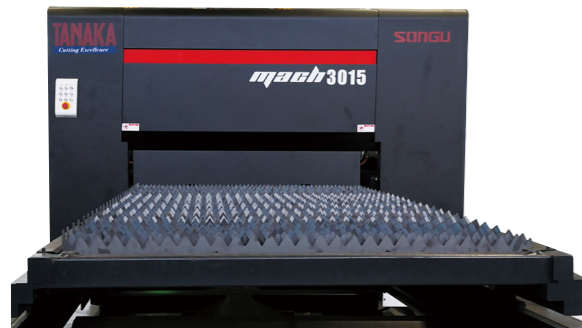
- High accuracy rack and pinion can make high rapid feed speed up to 240m/min (787.4ft/min).
- Mounted with the PRECITEC Pro Cutter laser cutting head.
- High torque direct drive system endure the powerful driving and excellent dynamic response.

3. Great value

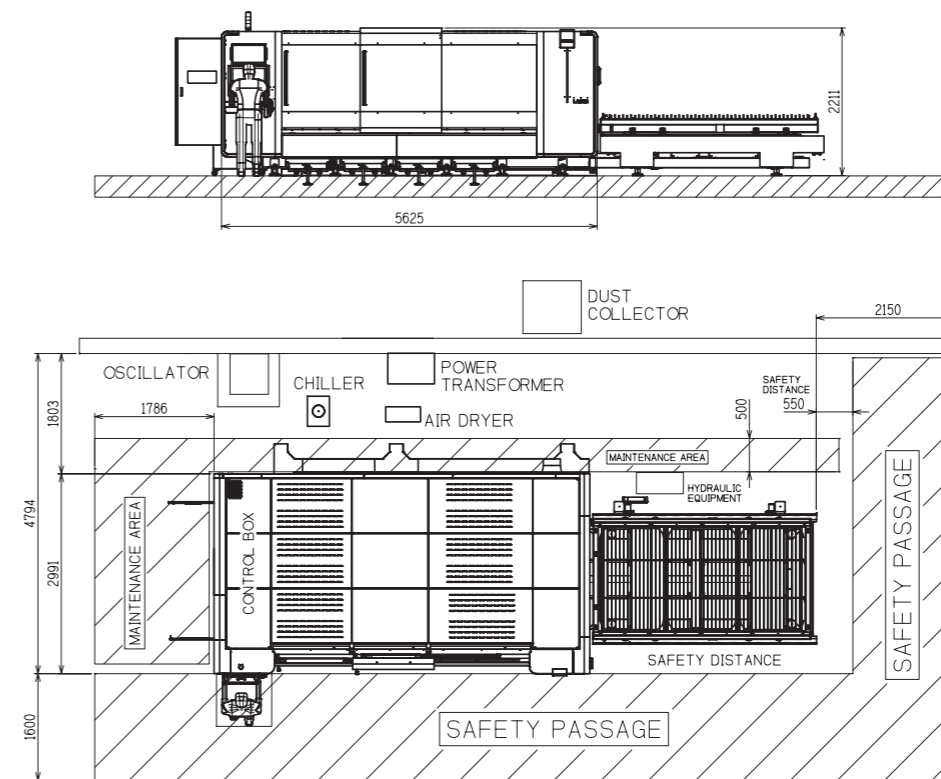
- Easy operability and optimized cutting technology makes excellent productivity and usability.

4. Safety design

- Fully enclosed housing with laser radiation shielding glass ensure the operator's safety.



Mach / Wind 3015



Components

- Machine body
- Machine housing & Workbench
- NC device [BECKHOFF]
- Oscillator [IPG]
- Laser torch head [PRECITEC]
- Dust collector [DONALDSON]
- Cooling water circulator
- Cold dryer & Filter unit
- Setting / Training

NOTE : Air compressor and CAM/CAD are not included.

Optional Function

- Stocker system is available up to 10 shelves

Machine specification

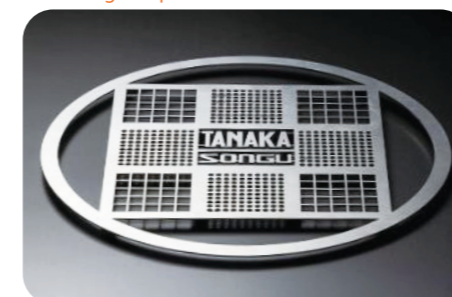
Model	3015	4020	6025
Output Laser power [W]		4000 / 6000	
Working area [mm (feet)]	3,000 x 1,500 (9.8' x 4.9')	4,000 x 2,000 (13.1' x 6.5')	6,000 x 2,500 (19.6' x 8.2')
Transmission system	Synchronized direct driving system		
Loading method	Automatic exchanging pallets Hydraulic shuttle tables		
Rapid feed speed [m/min (feet/min)]	Mach: 240 (787.4') / Wind: 200 (656.1')		
Position accuracy [mm/m]	±0.05		
Reposition accuracy [mm/m]	±0.03		
Overall dimension [mm (feet)]	9,800 x 3,000 x 2,200 (31.1' x 9.8' x 7.2')	12,000 x 3,500 x 2,200 (39.3' x 11.4' x 7.2')	15,500 x 4,200 x 2,200 (50.8' x 13.7' x 7.2')
Gross Weight [tonne (pound)]	13.5 t (29,762 lb)	15.5 t (34,171 lb)	17.5 t (38,580 lb)

Standard cutting specification

Material [Assista Gas]	4000W	6000W
Mild steel [O2]	16mm(0.62")	22mm(0.86")
Mild steel [N2]	4mm(0.15")	6mm(0.23")
Stainless steel [N2]	14mm(0.55")	20mm(0.78")
Aluminum [N2]	14mm(0.55")	20mm(0.78")

Cutting specification is reference data.
Dross may be adhere in a certain thickness and conditions.

Cutting samples



Stainless steel 1mm thick



Mild steel 3.2mm thick



Mild steel 9mm thick

• The figures are subject to change in case of adding functions.

Specifications



■ Oscillator specification

Model	Fiber laser			CO2 laser		
	TF6000	T112000	T120000	TF2000	TF4000	TF6000
Laser gas composition	N/A					
External dimension (mm)	653x1,192x1,374	1,005x815x806	1,007x815x806	2,050x750x1,256	2,050x750x1,376	3,250x790x1,490
Weight (kg)	About 620	About 450	About 550	About 700	About 900	About 1,300

■ Cooling water circulator specification

Model	Fiber laser			CO2 laser		
	TF6000	T112000	T120000	TF2000	TF4000	TF6000
External dimension (mm)	854x1,100x1,700	854x1,610x1,700	2,100x960x2,220	1,404x800x1,780	1,440x930x1,800	2,010x1,200x2,190
Weight (kg)	About 360	About 510	About 770	About 390	About 550	About 1,050

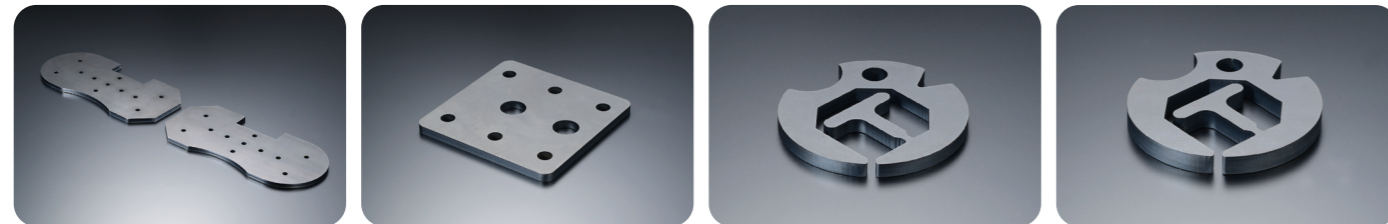
■ Utility / Input power supply capacity

	Fiber laser			CO2 laser		
	FMRII-TF6000	FMZII-T112000 FMRII-T112000	FMZII-T120000 FMRII-T120000	LMRV-TF2000	LMZV-TF4000 LMRV-TF4000	LMZV-TF6000 LMRV-TF6000
Machine body	15kVA	15kVA	15kVA	15kVA	15kVA	20kVA
Oscillator	40kVA	45kVA	70kVA	33kVA	55kVA	75kVA
Cooling water circulator	19kVA	29kVA	40kVA	17kVA	27kVA	44kVA

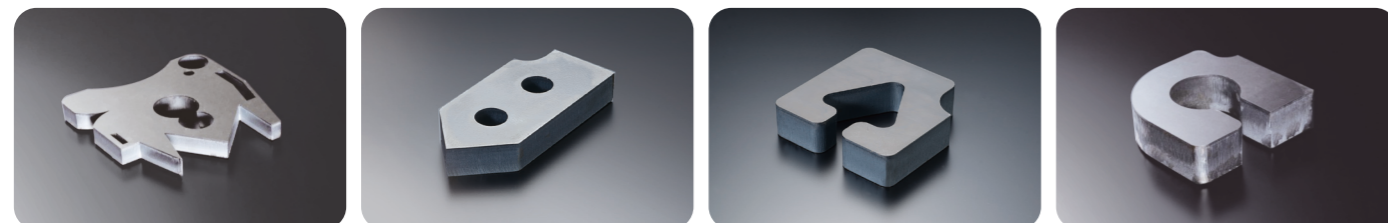
■ Fluid used

	Fiber laser			CO2 laser		
	FMRII-TF6000	FMZII-T112000 FMRII-T112000	FMZII-T120000 FMRII-T120000	LMRV-TF2000	LMZV-TF4000 LMRV-TF4000	LMZV-TF6000 LMRV-TF6000
Laser gas	0.3MPa	N/A			10L/hr	20L/hr
Oxygen	0.7MPa	10m3/hr	20m3/hr	10m3/hr	10m3/hr	10m3/hr
Dry air for cutting	0.7MPa	24m3/hr	24m3/hr	43m3/hr	43m3/hr	43m3/hr

■ Mild steel SS400



6mm thick with 9mm thick 9mm thick 12mm thick



16mm thick 25mm thick 32mm thick 38mm thick

The sample picture is for reference only. No warranty is given for actual cutting.
• The figures are subject to change in case of adding functions.

Functions

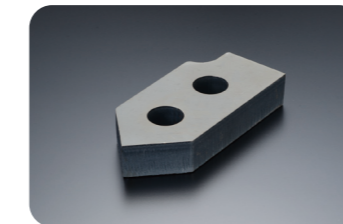
■ Standard functions

	FMRII	FMZII	LMRV	LMZV
Automatic lens positioning controlled by NC	○	○	○	○
AICC control	○	○	○	○
Scheduled operation	○	○	○	○
NC memory extension	○	○	○	○
Capacitance height sensor controlled by NC	○	○	○	○
High-speed piercing	○	○	○	○
Piercing completion detection	○	○	○	○
Self burning detection	○	○	○	○
Coordinate axis rotation	○	○	○	○
Laser spot function	○	○	○	○
Retry cut fault recovery	○	○	○	○
Fault skipping	○	○	○	○
Retry/Skip log for re-cutting	○	○	○	○
Flashing warning lights	○	○	○	○
Obstacle detection	○	○	○	○
Maintenance screen	○	○	○	○
Operators platform	○	○	○	○
Ping-pong torch motion	○	○	○	○
Shield gas optimizing function (GOS)	○	○	○	○
Stand-by	○	○	○	○
Shape drawing	○	○	○	○
Backward travel	○	○	○	○
Ultra-high-speed piercing	○	○	○	○
Stainless steel nitrogen cutting up to 1 MPa	○	○	○	○
Automatic power shut off	○	○	○	○
Operator reflection light protection	○	○	○	○
Torch monitoring TV camera & monitor	○	○	N/A	N/A
Positioning TV camera & monitor	○	○	N/A	N/A
Machine back face monitoring TV camera & monitor	○	○	N/A	N/A
Air blow inside machine cover	○	○	N/A	N/A

■ Optional functions

	FMRII	FMZII	LMRV	LMZV
Preceding burning function	○	○	○	○
Stainless steel nitrogen cutting up to 2 MPa	○	○	○	○
I-marking device	○	○	○	○
Pen marking device	○	○	○	○
Coordinate rotation ITV	○	○	○	○
Nozzle monitoring ITV	○	○	○	○
Collision prevention function	○	○	○	○
Automatic power-on	○	○	○	○
Laser cutting table	○	○	○	○
Air compressor	○	○	○	○
Steel plate stocker	○	○	○	○
High-speed piercing II	○	○	N/A	N/A

■ Coated steel plate (Zinc rich primer material)

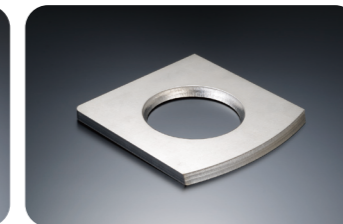


16mm thick

■ Bevel cutting



Mild Steel 16mm thick



Stainless Steel 12mm thick

■ Aluminum

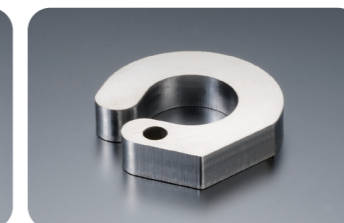


8mm thick

■ Stainless steel SUS304



16mm thick



16mm thick



25mm thick



28mm thick separation cutting

The sample picture is for reference only. No warranty is given for actual cutting.
• The figures are subject to change in case of adding functions.