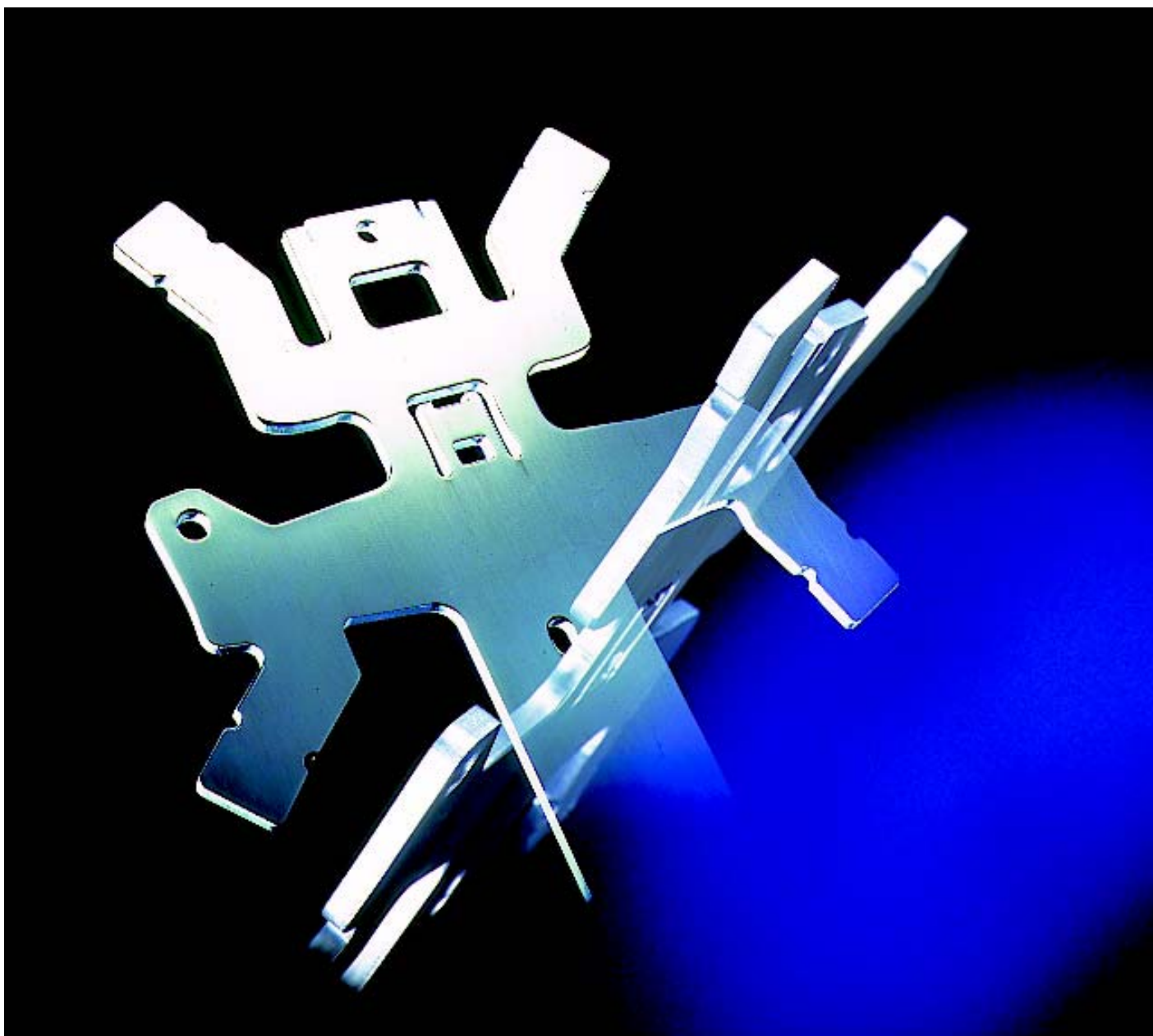


CO₂ Laser Cutting Machine



CO₂ Laser Technology
for Thin and Thick Sheet Metal Working

TRUMATIC L 2530

TRUMPF



Compact Laser Processing Machine



In 1987, TRUMPF presented its first flatbed laser cutting centre using the TRUMPF laser TLF. Since then, these machines have transformed every-day sheet metal production technology. They stand for the combination of precision machinery construction with the latest in laser technology. The TRUMATIC L 2530 rounds off the range of flatbed laser equipment incorporating proven techniques with new concepts.

The TRUMATIC L 2530 is an extremely compact machine which can be easily moved and set up. The body of the machine consists of a single welded construction.

The motion unit operates according to the »flying optics« principle. By this method, the acceleration potential of the machine can be utilised to the full independently of the weight of the piece being machined. The workpieces do not have to be held by clamping devices and finished components are always scratch-free as the workpiece is stationary.



The TRUMATIC's user friendliness is demonstrated not just by its ease of control, but also by its overall operational concept. Machine layout is oriented strictly along the requirement of ergonomic work processes. Thus, the machine is fed »longways on«. The machine front may be opened over its entire width in order to facilitate loading and unloading procedures. This loading concept relies on the motion unit being located crossways and in line with TRUMPF standards of accuracy and dynamics offering a high degree of rigidity combined with low weight.

The motion unit is built from lightweight construction steel. It offers high processing speeds and is not subject to temperature fluctuations.

The most important machine characteristics summarised:

- »All in one« machine
- Good accessibility and working ergonomics
- Small space requirement
- Simplicity of operation
- Middle format working range
- High safety and environmental standards

The production of ready for assembly workpieces with high-quality edge finishes and economical use of the laser tool are some of the reasons for adopting laser technology. Set-up times are minimal whilst control and programming techniques take care of a smooth production process from drawing to finished part.

The Part Spectrum

Through Thick and Thin with the Laser Beam



The laser beam is a multi-functional tool. Its strength lies in its ability to machine a range of materials in thin and thick sheet metals. Parts geometry may be constructed simply or in a more complex manner. The laser beam completes everything ready for assembly. The programming system, ToPs 100, provides additional support as ToPs »knows« which materials are to be machined in which way.

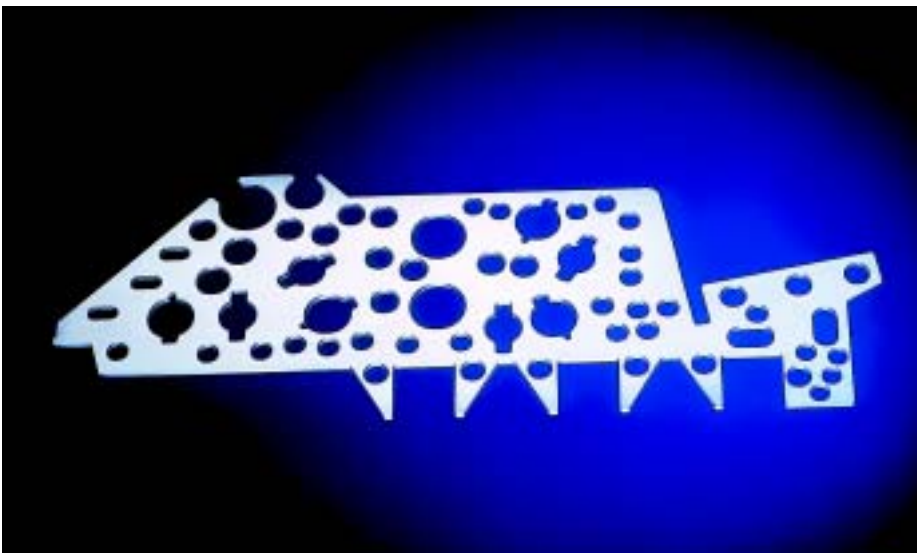
The TRUMATIC L 2530 serves primarily to carry out cutting tasks, however, the laser beam is capable of even more. It can mark parts for identification purposes, it can apply dot marks and machine plastic coated material.

Large variety of materials in the thin and thick sheet range

Inclusive of Know-how

- SprintLas: Increased processing speed in the thin metal sector.
- TwinLine: Common Line Cuts. When working in conjunction with ToPs 100 this feature enables automatic definition and processing of shared slitting cuts, thus saving both time and material.
- PMS (Plasma Monitoring System) monitors the process reliability when cutting thick stainless steel plates
- Microweld: Welding spots keep the parts attached to the sheet – even in thicker material. ToPs support makes microwelding child's play.

High speed cutting with SprintLas



The All Important Quality of Cut

- Machining of corners: Loops, radii or corner cooling. You choose your process depending on your material and requirement.
- HI-LAS: Oxide and burr free cut edges on stainless steels and aluminium alloys as a result of high-pressure cutting.
- ContourLas: Thick sheet metal processing to perfection requires the use of specific approach techniques to ensure safe guaranteed processing as well as cutting small holes in thick sheets.

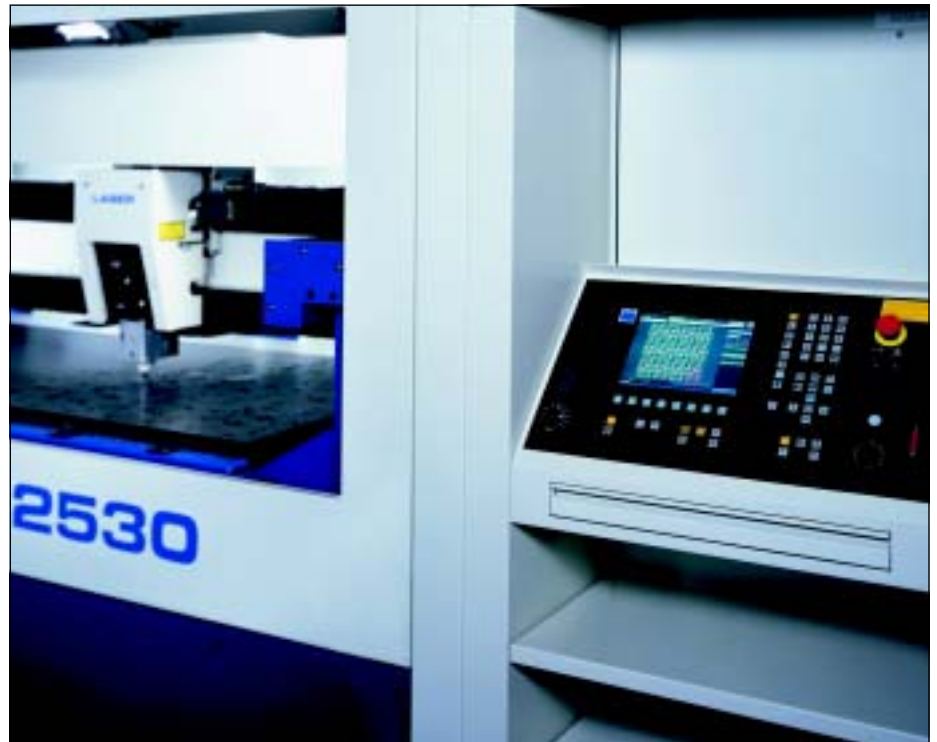
Thick sheet processing to perfection



The Control: Open Control for Increased Ease of Operation

The control of the TRUMATIC L 2530 is located in an ergonomic position on the right-hand side of the machine. Work surfaces and storage areas help to maintain order. From this point, all processes can be assessed at a glance. The comfortable user interface has been developed by TRUMPF and offers many of the characteristics typical of the well-known Windows environment.

- The application you wish to carry out is at the fore, not the machine functions. Processing starts after a few initial steps.
- Integrated online help immediately answers all queries as and where they arise.
- The diagnostic concept indicates faults in operational procedures graphically. Remedial actions are given in clear text rather than in coded messages. Modem-based teleservice, of course, is also available.



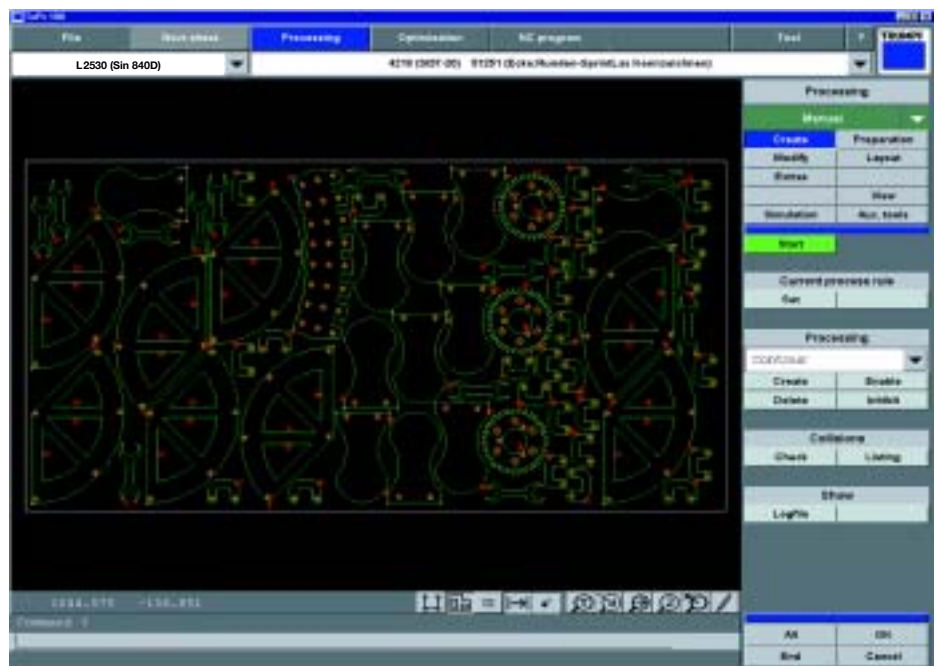
Operator's panel in the machine frame

The Programming System A System for Office as well as Shop Floor

ToPs 100 is a CAD/CAM development by TRUMPF in which the machine and programming system are optimally coordinated.

- Automatic processing: Drawings of individual parts are provided by your CAD system or created by means of the ToPs design function. Processing starts automatically by pressing a button.
- ToPs incorporates our technical know-how: All operational parameters and data are stored in technology tables and sets of rules. ToPs »knows« the cutting parameters suited to your material and how to achieve the best cutting results.

ToPs 100 lite is the shop floor version of ToPs 100. Both systems can be simply linked up with each other and with the machine. In this way, general data availability for NC programming purposes is guaranteed.



Automatic processing with ToPs 100

Finishing by Laser: Reliable and the Best by Far



Compact and powerful: TRUMPF Laser TLF

Cutting with DIAS height regulator

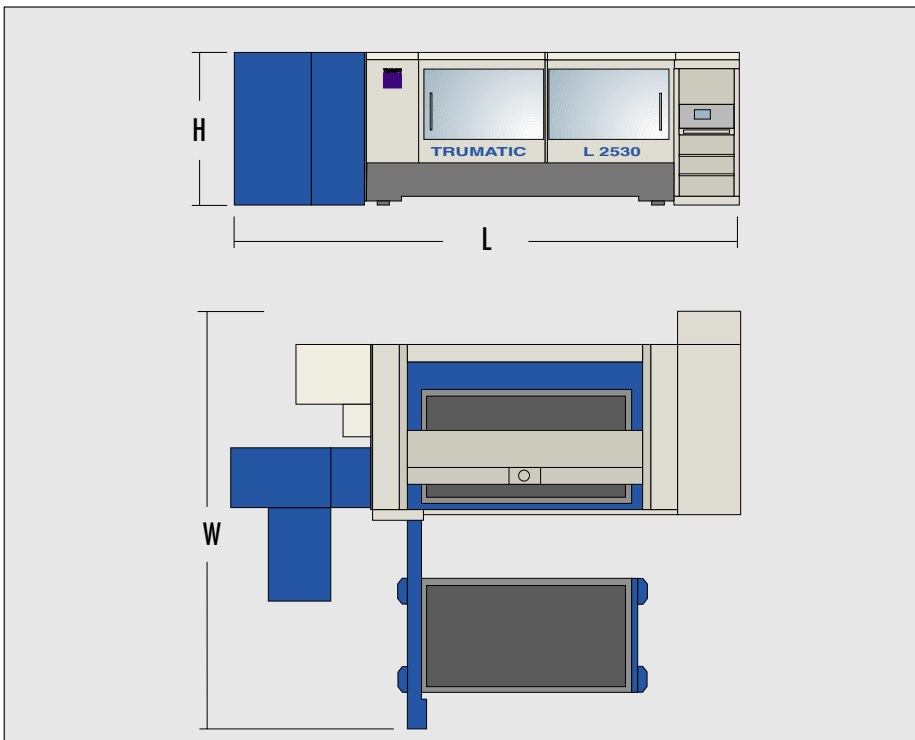
The cutting head is easily exchanged. The rapid change system makes it possible to replace the cutting head in one simple operation.

The non-contact automatic height regulation system DIAS (Digitally Intelligent Distance System) maintains a constant distance between cutting head and metal surface without requiring manual intervention. The result is a scratch-free finish – also in uneven sheets.

TRUMPF Laser TLF to suit applications:

The TRUMATIC L 2530 can be equipped with lasers of varying power levels depending on the range of your parts. The radio-frequency excited gas lasers by their very compact construction have been proven many times over in tough every day industrial environments. Their characteristics: High beam quality with infinitely variable laser power and combined with low gas consumption are a result of RF technology. The control feature AutoLas Plus maintains constant focal position and ensures automatic focus adjustment to material type and thickness.

Extension Modules: Changing and Loading Pallets Automatically



The same important principle as for the basic machine applies to extension modules: Ease of access and ergonomic working methods.

Pallet Changer

The addition of a pallet changer enables the machine to be loaded and unloaded parallel to production. The workpiece support is designed in such a way that it can be adjusted to two different height positions.

This also enables the processing of containers and profiles without extensive modification work. The pallet changer is placed directly in front of the machine and is accessible from three sides.

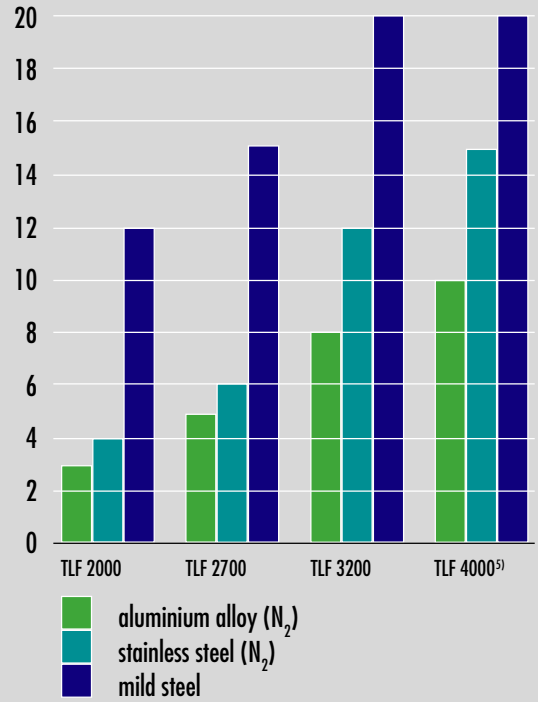
Loading Device

The machine can also be equipped with a loading device to provide extra assistance.

Technical Data

Machine		TRUMATIC L2530
Working range	X axis	2500 mm
	Y axis	1250 mm
	Z axis	115 mm
Maximum workpiece weight		500 kg
Maximum speeds	parallel to axis	60 m/min
	simultaneously	85 m/min
Accuracy ¹		
Smallest programmable increment		0.01 mm
Positioning accuracy Pa		± 0.1 mm
Repeatability Ps		± 0.03 mm
Control		
TRUMPF CNC Control		based on Sinumerik 840 D
Space requirement and weight ²	Length (L)	7100 mm
	Width (W)	5900 mm
	Height (H)	2000 mm
	Weight	7900 kg

Maximum Sheet Thickness in mm



⁵⁾ Higher productivity compared with TLF 3200.

TRUMPF CO ₂ Laser radio frequency controlled	TLF 2000	TLF 2700	TLF 3200	TLF 4000
Guaranteed max. power	2000 W	2700 W	3200 W	4000 W
(Adjustable in 1 percent stages)	100 – 2000 W	140 – 2700 W	160 – 3200 W	200 – 4000 W
Wavelength	10.6 µm	10.6 µm	10.6 µm	10.6 µm
Beam mode	TEM ₀₀	TEM ₀₀	TEM ₀₀	TEM ₀₁ *
Gating frequency	100 Hz – 10 kHz	100 Hz – 10 kHz	100 Hz – 10 kHz	100 Hz – 10 kHz
Consumption values				
Laser gas	CO ₂	1 l/h	1 l/h	1 l/h
	N ₂	6 l/h	6 l/h	6 l/h
	He	13 l/h	13 l/h	13 l/h
Cutting gas ³ O ₂	500 – 2000 l/h	500 – 2000 l/h	500 – 2000 l/h	500 – 2000 l/h
Coolant	closed system	closed system	closed system	closed system
Electrical consumption values of the entire system ⁴	22 – 42 kW	24 – 52 kW	27 – 53 kW	33 – 67 kW

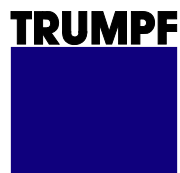
¹ According to German standard VDI/DGQ 3441. Measured length is 1 m. Workpiece tolerances depend (amongst other things), on type, pretreatment, sheet size and location in the working area.

² Approximate values. Precise data can be taken from the valid installation plan.

³ Depending on each application.

⁴ Including suction, control, RF generator and chiller.

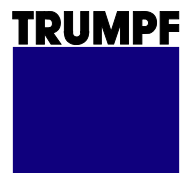
TRUMPF is certified in accordance with DIN ISO 9001



TRUMPF Werkzeugmaschinen
GmbH + Co. KG
P.O. Box
D-71252 Ditzingen

Telephone: +49(0)7156 303-0
Telefax: +49(0)7156 303309
E-mail: info@de.trumpf.com
Internet: <http://www.trumpf.com>

TRUMPF is certified in accordance with DIN ISO 9001



TRUMPF Ltd
President Way
Airport Executive Park
Luton, Bedfordshire LU2 9NL
England

Phone: (01582) 725335
Fax: (01582) 399 250
E-mail: sales@uk.trumpf.com
Internet: <http://www.trumpf.com>