

fineweld Y 150 M  
Osai Lasing Machine

 **Osai**  
automation systems

*Lasing Machineries*

*Innovation & Quality*

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# company

Osai was founded in 1991 with the aim of constructing special machines for assembly and final checking of components for the automotive and electrical appliances industries and the electro-technical industry in general. Apart from constructing assembly machinery, Osai A.S. produces equipment in the field of automation processes and LASER technology.

Osai headquarter is located in the ancient "Parella Papermill", a building that has a centuries-old architectural history. Within these walls, every day technicians and designers apply the most extremely evolved technologies, building machines for the industry.



# technologies

## LASER cutting

Systems of precise LASER cutting on mechanical components of small and medium dimensions. The open-connection concept of the system allows the use of different LASER sources like Nd: YAG, CW or pulsed; CO<sub>2</sub>; Disc and Fiber.

The cutting process is realized through specific CNC systems which are thoroughly integrated with the LASER sources.

The autofocus system with rapid change of lens, anticollision system and quick centering of nozzle allows a completely automatic use and guarantees speed and an easy maintenance.



Medical sector  
Stainless steel  
Nd-YAG LASER  
Cutting width: < 20 µm

Jewellery  
Stainless steel  
CO<sub>2</sub> LASER  
Gold thickness: 1.5 mm  
Cutting speed: 1500 mm/min  
Cutting width: 100 µm

Jewellery  
Gold  
Nd-YAG LASER  
Thickness: 0.3 mm  
Cutting speed: 600 mm/min  
Cutting width: 40 µm







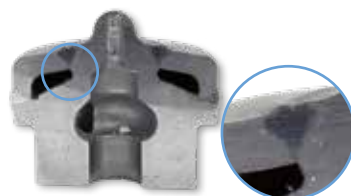
Industrial  
Pulsed Nd-YAG LASER  
Steel  
Penetration: 1.5 mm  
Welding time: 4 seconds



Jewellery  
Pulsed Nd-YAG LASER  
Stainless steel  
Penetration: 0.3 mm  
Welding time: 3 seconds



Naval sector  
CO<sub>2</sub> LASER  
Steel  
Penetration: 2 mm  
Welding time: 3.5 seconds



## LASER welding

LASER welding systems for simple and complex mechanical components (metal or plastic) of small/medium dimensions, using Nd:YAG CW or pulsed, CO<sub>2</sub>, Disc or Diode LASER sources with free propagation or via fibre, with fixed optics or galvanometric technology.

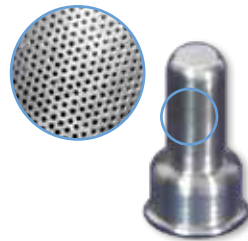
It's possible to manage several welding stations by sharing them with the same source, using the Time-Sharing or Energy-Sharing technology.

## LASER drilling

LASER drilling systems for mechanical components of small dimensions with diameters starting from 0.005 mm.

These systems are applied to the production of cylindrical and flat filters for fluids at high pressure.

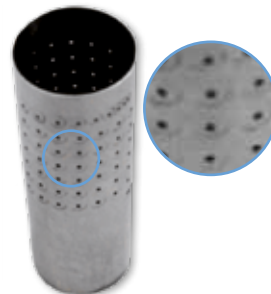
The process applied to the Osai's systems uses pulsed Nd:YAG sources with free propagation or in fibre.



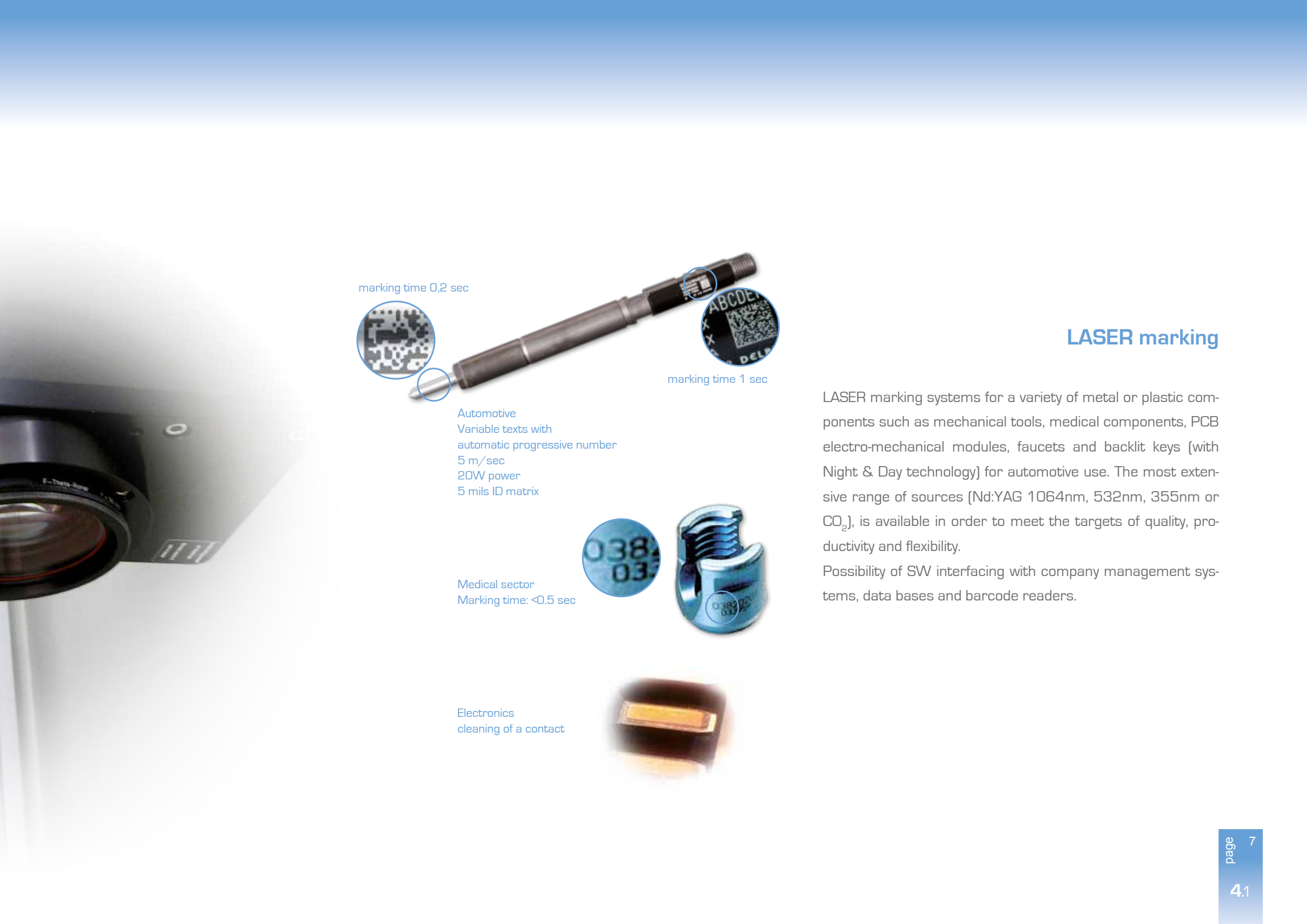
Automotive  
Nd-YAG LASER  
Thickness of material: 0.4 mm  
Number of holes: 2016  
Diameter of holes: 0.4 mm  
Cycle time: 8 seconds



Medical sector  
Nd-YAG LASER  
Thickness of material: 0.5 mm  
Number of holes: 200  
Diameter of holes: 0.1 mm  
Cycle time: 1 second



Medical sector  
Nd-YAG LASER  
Thickness of material: 0.3  
Number of holes: 100  
Diameter of holes: 0.3 mm  
Cycle time: 2 seconds



marking time 0,2 sec

marking time 1 sec

Automotive  
Variable texts with  
automatic progressive number  
5 m/sec  
20W power  
5 mils ID matrix



Medical sector  
Marking time: <0.5 sec



Electronics  
cleaning of a contact

## LASER marking

LASER marking systems for a variety of metal or plastic components such as mechanical tools, medical components, PCB electro-mechanical modules, faucets and backlit keys (with Night & Day technology) for automotive use. The most extensive range of sources [Nd:YAG 1064nm, 532nm, 355nm or CO<sub>2</sub>], is available in order to meet the targets of quality, productivity and flexibility.

Possibility of SW interfacing with company management systems, data bases and barcode readers.

# products

Since 1995 Osai A.S. develops and manufactures systems for micro-machining such as LASER marking, welding, cutting and drilling.

The knowledge of the technology and the processes, deriving from the cooperation with the worldwide leaders in LASER sources production, enabled to realize over 500 applications for customers worldwide.

The experience acquired in the industrial applications, particularly in fine cutting, welding and marking, allowed us to implement dedicated solutions for jewellery, medical and aerospace, using standard and customized machineries that guarantee high quality of the finished product, low running costs and the versatility of performance.





# Osai Lasing Machineries

## *fine*cut



serie **100**



serie **100 HP**



serie **240 HP**



serie **300**

## *fine*weld



serie **100**



serie **300**

## *fine*plast



serie **100**

## **DM**SERIES



**DM 1**



**DM 2**



**DM 2 c**

# LASER cutting



**finecut**  
serie 100

LASER fine cutting station tailored for the jewellery and fashion market. It is ideal for series production, but also immediate for prototyping and test samples creation. Wide range of suitable cutting materials: gold, nickel-silver, titanium, aluminium, steel, copper, brass with thickness up to 5 mm.

Production costs highly reduced and quality significantly improved, in comparison to traditional technologies such as wire electroerosion, water-jet or LASER marker multiple passes cutting.

Easy and immediate tooling of new models, through the integrated CAD/CAM with direct import of graphic files. High speed and positioning accuracy, thanks to an

industrial CNC and the use of brushless motors with encoder.

Direct beam delivery by mirror benders to guarantee the highest LASER beam quality, or Fiber beam delivery for higher power and protection of the LASER source. High pressure focusing head for a state of the art cleaning of the cut edge.

Extremely small kerf width and minimum HAZ (Heat Affected Zone) achieved through Nd:YAG or Fiber pulsed LASER technology.

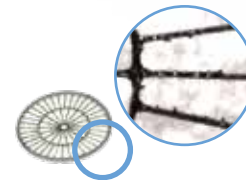
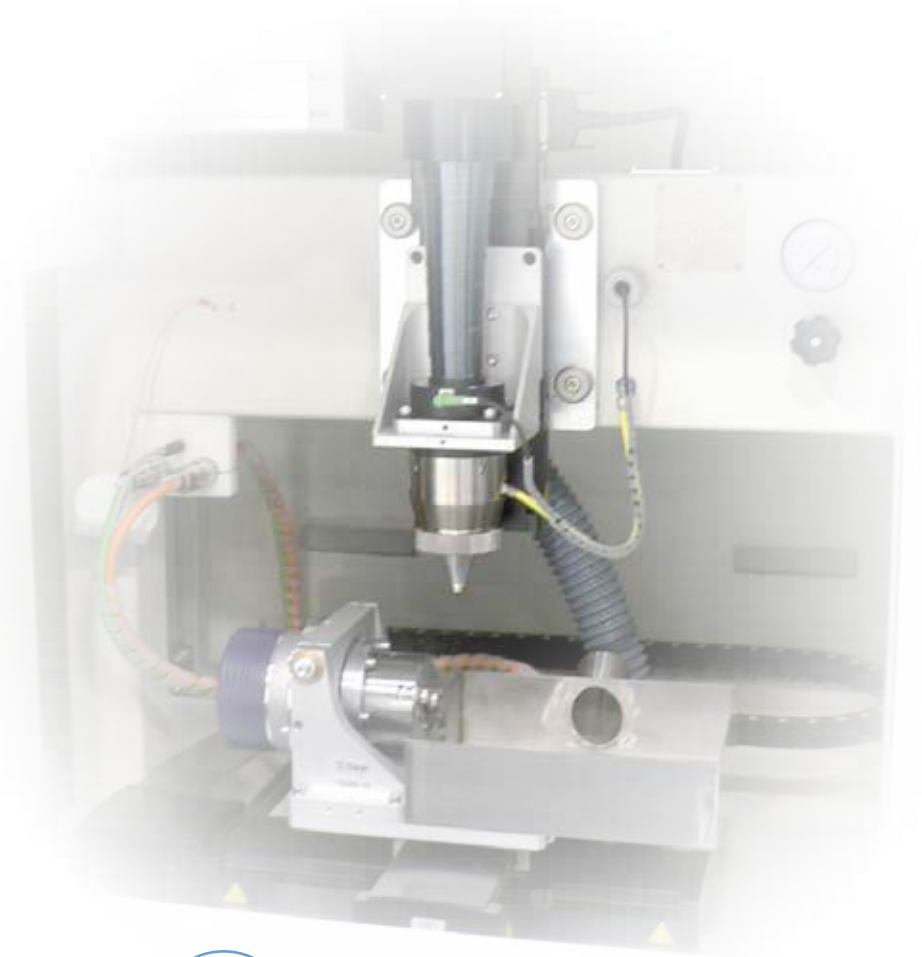
Depressurized cutting box for total exhausting and recycling of powders and vapours produced during the cutting.



The quick and flexible  
solution for the  
highest quality  
LASER fine cutting

## TECHNICAL DATA

DIMENSION - excl. LASER source	L 2320 - P 1300 - H 1960 mm
WEIGHT - excl. LASER source	≈ 900 Kg
WORKING AREA	250 x 250 mm
LASER SAFETY	CLASS 1 (EN 60825-1)
LASER SOURCE	Nd:YAG - FIBER - FEMTO
AVAILABLE AXES	up to 4 CNC
SHEET HOLDER THICKNESS	0.05 - 3.5 mm (standard)
POSITIONING ACCURACY	better than $\pm 15 \mu\text{m}$
POSITIONING REPEATABILITY	better than $5 \mu\text{m}$
MAXIMUM SPEED	20 mm/sec (single axis)
MAXIMUM PAYLOAD ON AXIS	10 Kg
PROCESS GAS	Single input, CNC programmable, for compressed air, $\text{N}_2$ , $\text{O}_2$ , Ar (up to 18 bar)
NOZZLE ALIGNMENT	TTL camera system for direct beam version, fully automatic for fibre delivery version
IMPORTABLE GRAPHICS FILES	HPGL, DXF, ISO and others
MAN/MACHINE INTERFACE	Through PC with LCD monitor and keyboard
SYSTEM MANAGEMENT SOFTWARE	Intuitive and graphic, interfaceable with the company information system to communicate codings and production data
CONFIGURATION/OPTIONS	Tele-diagnosis function for technical support and remote training. Fume exhaust



Examples of realized applications

# LASER cutting



## **finecut HP** serie 100

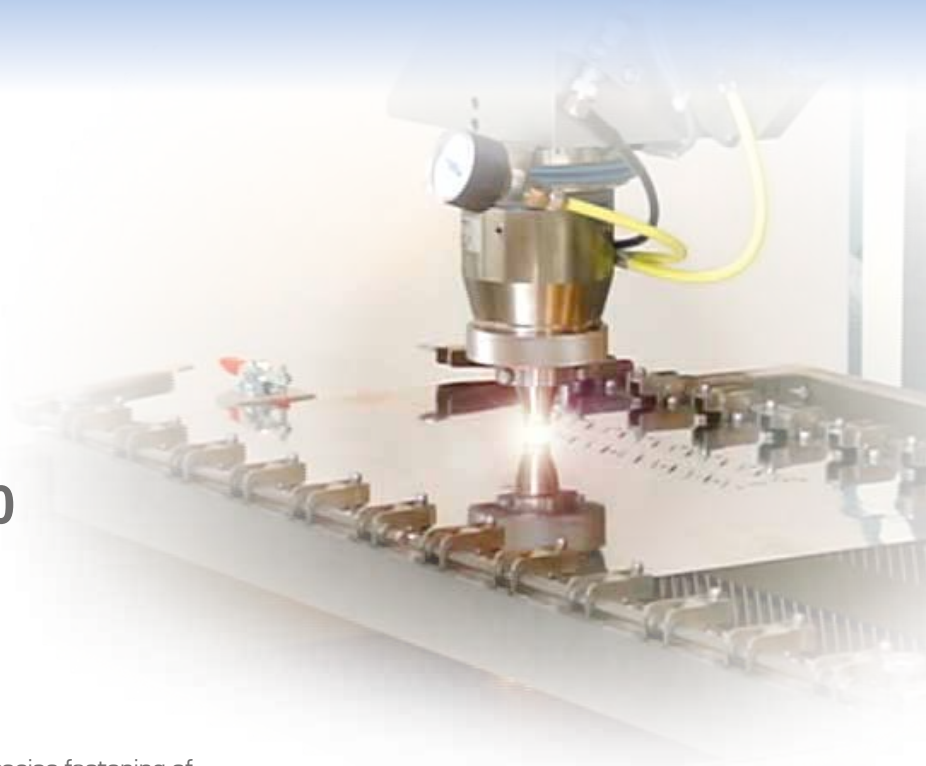
The High Precision FineCut HP was developed for manual and semi-automatic welding and fine-cutting applications, using up to 4 CNC controlled axes. The system offers high precision and flexibility performances and a compact ergonomic structure with an accuracy of  $\pm 5 \mu\text{m}$  on a working area of 800 x 600 mm. The granite base acts as both a load bearing structure and a base for the X-Y table and the Z axis.

Linear motors are used in order to guarantee the machining precision and high performance of the FineCut HP.

It is possible to integrate a fourth (optional) rotary axis, also controlled by CNC, for the machining of round or elliptical components. The working plane, on the Y axis,

has T-shaped slots for the easy and precise fastening of the components to process or of the cutting boxes. The machine can be configured in LASER Class 4 in order to get the maximum loading/unloading flexibility of the components to process, or in LASER Class 1 so that the operator can work with the maximum safety. This machine, ideal for the precise work that the medical sector requires, can be used in precision mechanics or in the electronics sector.

Different processing softwares are available, to convert the drawings into the machine code; whether they be on flat plate or on tube.

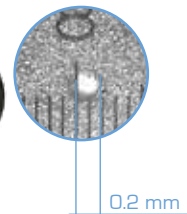
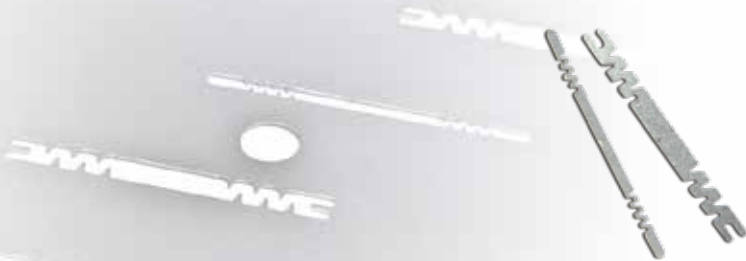
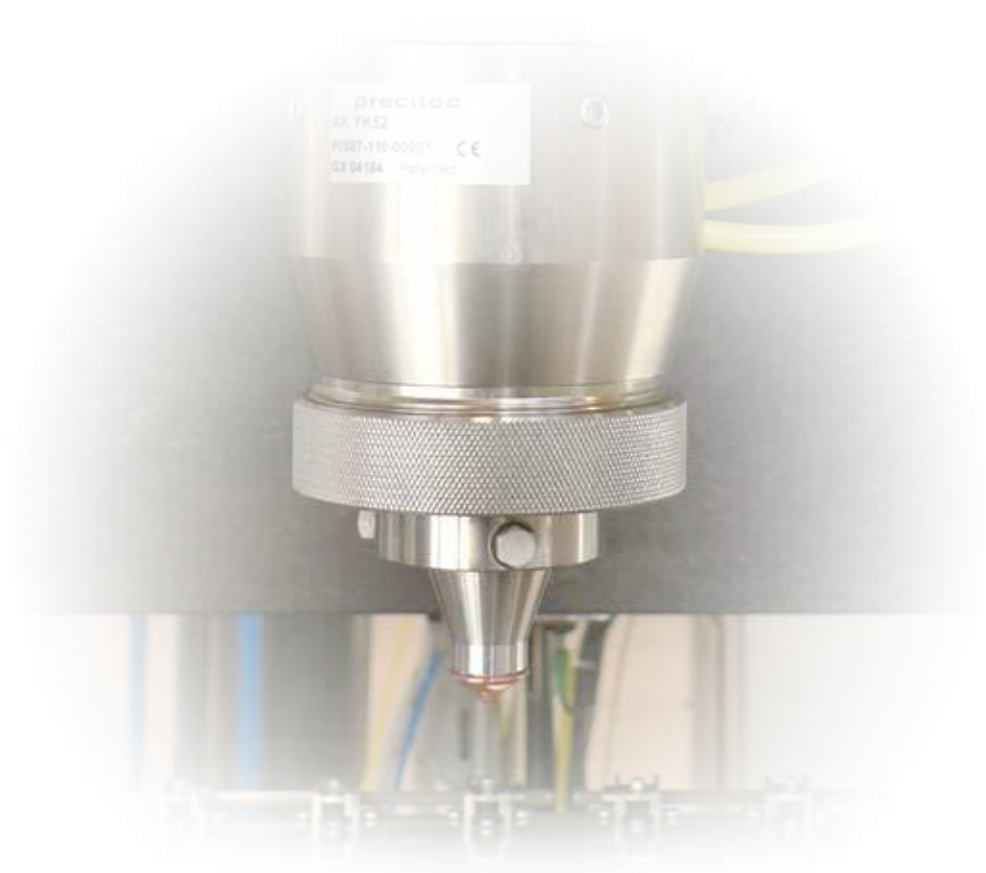


High LASER cutting  
precision and speed  
for the most  
demanding markets



## TECHNICAL DATA

DIMENSION - excl. LASER source	L 1.570 - P 2.280 - H 1.800 mm
WEIGHT - excl. LASER source	≈ 4.000 Kg
WORKING AREA	600 x 800 mm
LASER SAFETY	CLASS 4 (EN60825-1)
LASER SOURCE	Nd:YAG - CO <sub>2</sub> - FIBER
AVAILABLE AXES	up to 4 CNC
SHEET HOLDER THICKNESS	0.05 - 3.5 mm (standard)
POSITIONING ACCURACY	better than ± 5 µm
POSITIONING REPEATABILITY	better than 2.5 µm
MAXIMUM SPEED	2.000 mm/sec (single axis)
MAXIMUM PAYLOAD ON AXIS	50 Kg
PROCESS GAS	Triple input, CNC programmable, for compressed air, N <sub>2</sub> , O <sub>2</sub> , Ar (up to 18 bar)
NOZZLE ALIGNMENT	TTL camera system for direct beam version, fully automatic for fibre delivery version
IMPORTABLE GRAPHICS FILES	HPGL, DXF, ISO and others
MAN/MACHINE INTERFACE	Through PC with LCD monitor and keyboard
SYSTEM MANAGEMENT SOFTWARE	Intuitive and graphic, interfaceable with the company information system to communicate codings and production data
CONFIGURATION/OPTIONS	Tele-diagnosis function for technical support and remote training. Fume exhaust



Examples of realized applications



# LASER cutting



## finecut HP serie 240

LASER fine cutting station, designed for the production of very precise round and flat parts such as stents, cardiac valves, medical tools etc.

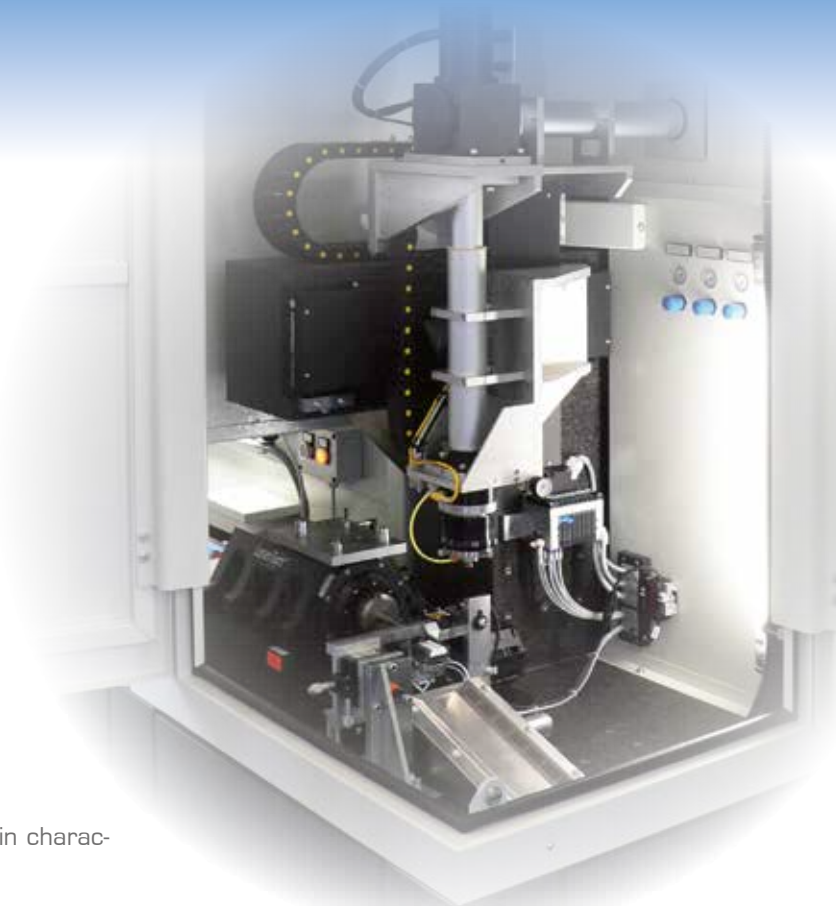
The granite basement is integrated inside a welded steel frame, in order to guarantee the highest precision at very high working speed.

Up to 4 axis CNC driven by Aerotech A3200 motion controller, double frontal door for an easy access to the working area, special support for the pipes and a big

frontal window (LASER certified) are the main characteristic of this machine.

The “state of the art” LASER sources can be integrated on this machine, permitting to the Customer to produce with a consolidated process or to develop new processes and parts using the newest LASER sources available on the market.

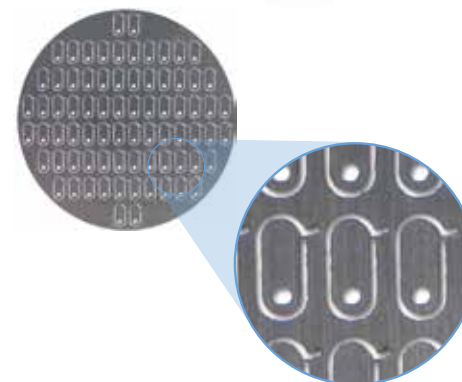
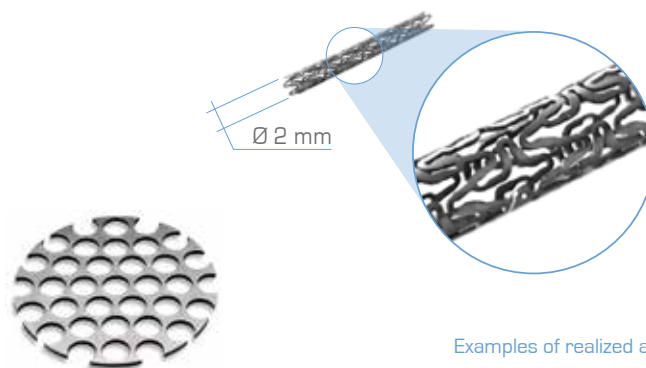
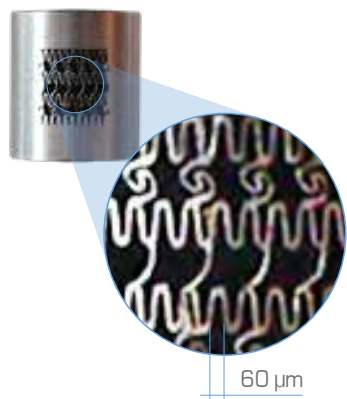
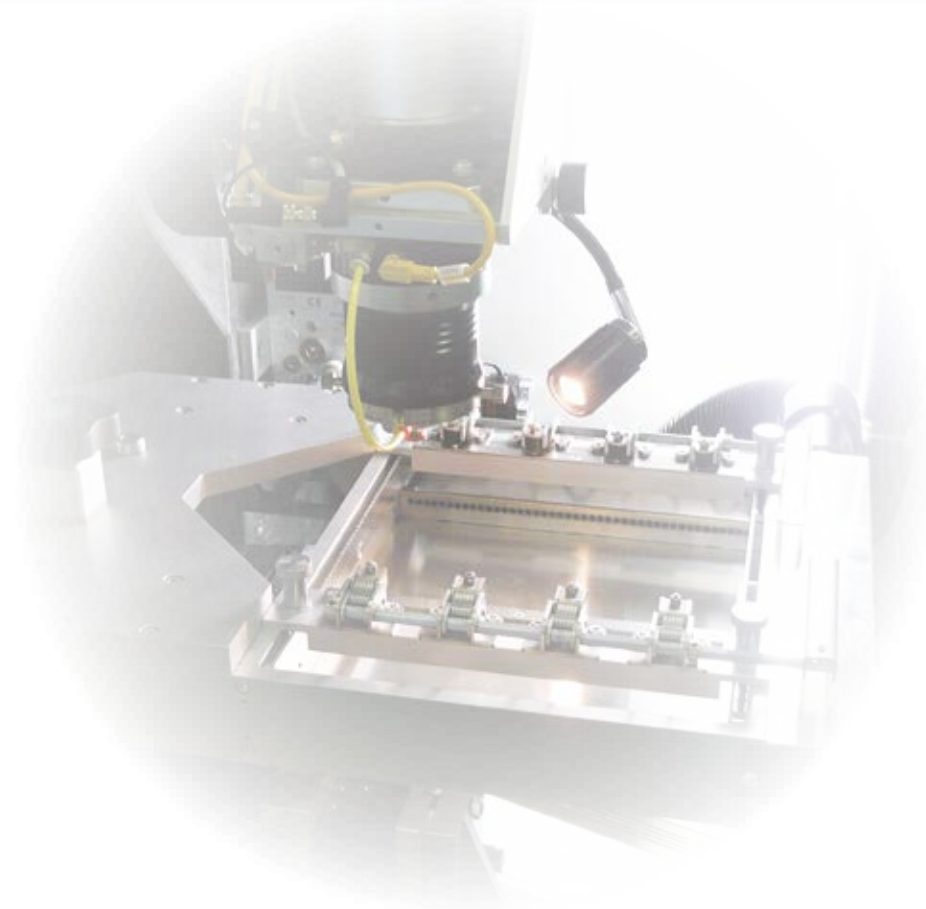
The machine is integrated with two cutting boxes, dedicated to round parts and flat plates.



The quick and flexible  
solution for  
the highest quality  
LASER fine cutting

## TECHNICAL DATA

DIMENSION	L 1.800 x P 1.400 x H 2.400 mm
WEIGHT	≈ 1.400 Kg
WORKING AREA	250 x 250 mm
LASER SAFETY	CLASS 1 (EN60825-1)
LASER SOURCE	Nd:YAG - FIBER
AVAILABLE AXES	up to 4 CNC
SHEET HOLDER THICKNESS	0.05 - 1.5 mm (standard)
POSITIONING ACCURACY	up to $\pm 2 \mu\text{m}$ (single axis)
POSITIONING REPEATABILITY	up to $\pm 1 \mu\text{m}$ (single axis)
MAXIMUM SPEED	250 mm/sec (single axis)
PROCESS GAS	Triple input, CNC programmable, for compressed air, $\text{N}_2$ , $\text{O}_2$ , Ar (up to 20 bar)
MAN/MACHINE INTERFACE	Through PC with LCD monitor and keyboard
SYSTEM MANAGEMENT SOFTWARE	Intuitive and graphic, interfaceable with the company information system to communicate codings and production data
CONFIGURATION/OPTIONS	Tele-diagnosis function for remote technical support Customized CAD/CAM



Examples of realized applications

# LASER cutting



**finecut**  
serie 300

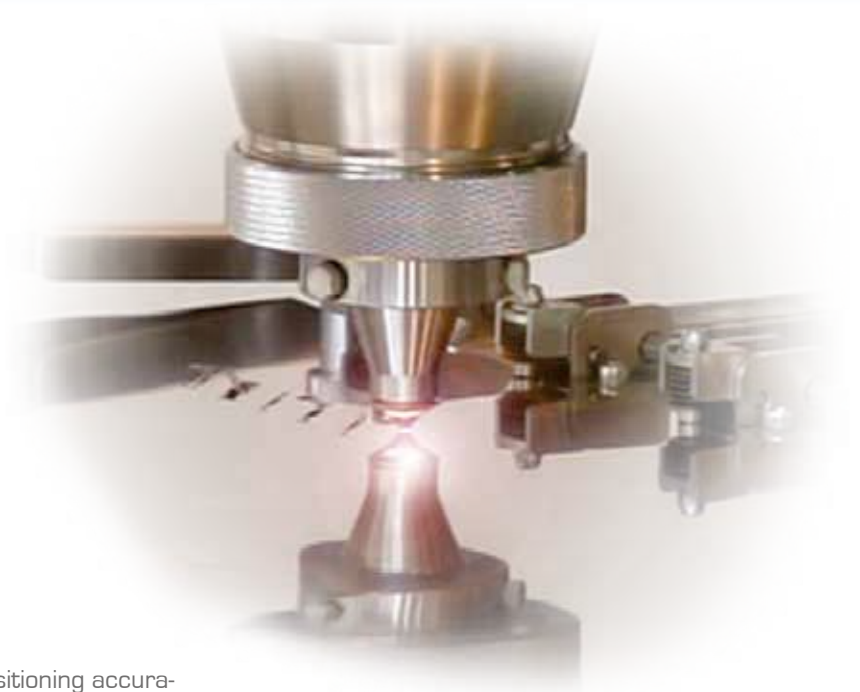
LASER fine cutting station tailored for the jewellery and fashion market, with dedicated solutions coming from a long experience in the field of LASER applications. It is ideal for series production, but also immediate for prototyping and test samples creation.

Production costs highly reduced and quality significantly improved, in comparison to traditional technologies such as cutting plotters, wire electroerosion, water-jet or multiple passes cutting LASER marker. Easy and immediate tooling of new models, through the integrated CAD/CAM with direct import of graphic files or even hand made sketches.

Wide range of processable materials: stainless steel, various metals, acrylic, fiberglass, MDF, wood with thick-

ness up to 20 mm. High speed and positioning accuracy, thanks to an industrial CNC and the use of brushless motors with encoder. Direct beam delivery by bending mirrors to guarantee the highest LASER beam quality, or Fiber beam delivery for higher power and protection of the LASER source. High pressure cutting head for a state of the art cleaning of the cut edge.

Small kerf width and minimum HAZ (Heat Affected Zone) achieved through LASER CO<sub>2</sub> technology. Depressurized cutting box for total exhausting and recycling of powders and vapours produced during the cutting.



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highest quality  
LASER fine cutting



## TECHNICAL DATA

DIMENSION - excl. LASER source	L 1800 - P 1400 - H 2400 mm
WEIGHT - excl. LASER source	≈ 1400 Kg
WORKING AREA	750 x 300 mm (500 x 250 mm compact version)
LASER SAFETY	CLASS 1 (EN60825-1)
LASER SOURCE	CO2 - ND:YAG - FIBER
AVAILABLE AXES	up to 4 CNC
SHEET HOLDER THICKNESS	0.05 - 3.5 mm (standard)
POSITIONING ACCURACY	better than $\pm 25 \mu\text{m}$ (single axis)
POSITIONING REPEATABILITY	better than $12 \mu\text{m}$ (single axis)
MAXIMUM SPEED	250 mm/sec (single axis)
MAXIMUM PAYLOAD ON AXES	50 Kg
PROCESS GAS	Triple input, CNC programmable, for compressed air, $\text{N}_2$ , $\text{O}_2$ , Ar (up to 20 bar)
NOZZLE ALIGNMENT	TTL camera system for direct beam version, fully automatic for fibre delivery version
IMPORTABLE GRAPHICS FILES	HPGL, DXF, ISO and others
MAN/MACHINE INTERFACE	Through PC with LCD monitor and keyboard
SYSTEM MANAGEMENT SOFTWARE	Intuitive and graphic, interfaceable with the company information system to communicate codings and production data
CONFIGURATION/OPTIONS	Tele-diagnosis function for technical support and remote training Fume exhaust - Automatic feeder



Examples of realized applications

# LASER welding



## fineweld serie 100

The series of FineWeld 100 machines constitutes LASER welding systems with sources like pulsed Nd:YAG, CO<sub>2</sub> and Fiber LASER.

Constructed on a base of electro-welded bent plate, these machines can be adjusted in terms of height and planarity by way of vibration absorbing rubber feet.

The system is certified as a "Class 1 LASER welding system" for Nd:YAG  $\lambda = 1064\text{nm}$  or CO<sub>2</sub>  $\lambda = 10.6\text{ }\mu\text{m}$  sources in accordance with the laws in force regarding the safety of LASER emissions [EN 12100-1, EN60825].

The safety guard is guaranteed by self-supporting panels, which are easily removed for maintenance purposes.

The basic versions of this family have manual loading/unloading. However, versions with rotating tables are

available which make the loading/unloading possible in masked time. The door has two filtering windows for LASER emissions of great dimensions.

It is possible to move both the welding head and the components to be welded, making this family of machines suitable for the machining of complex pieces.

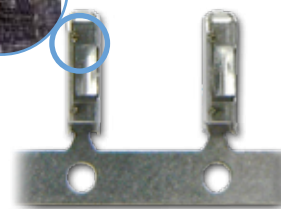
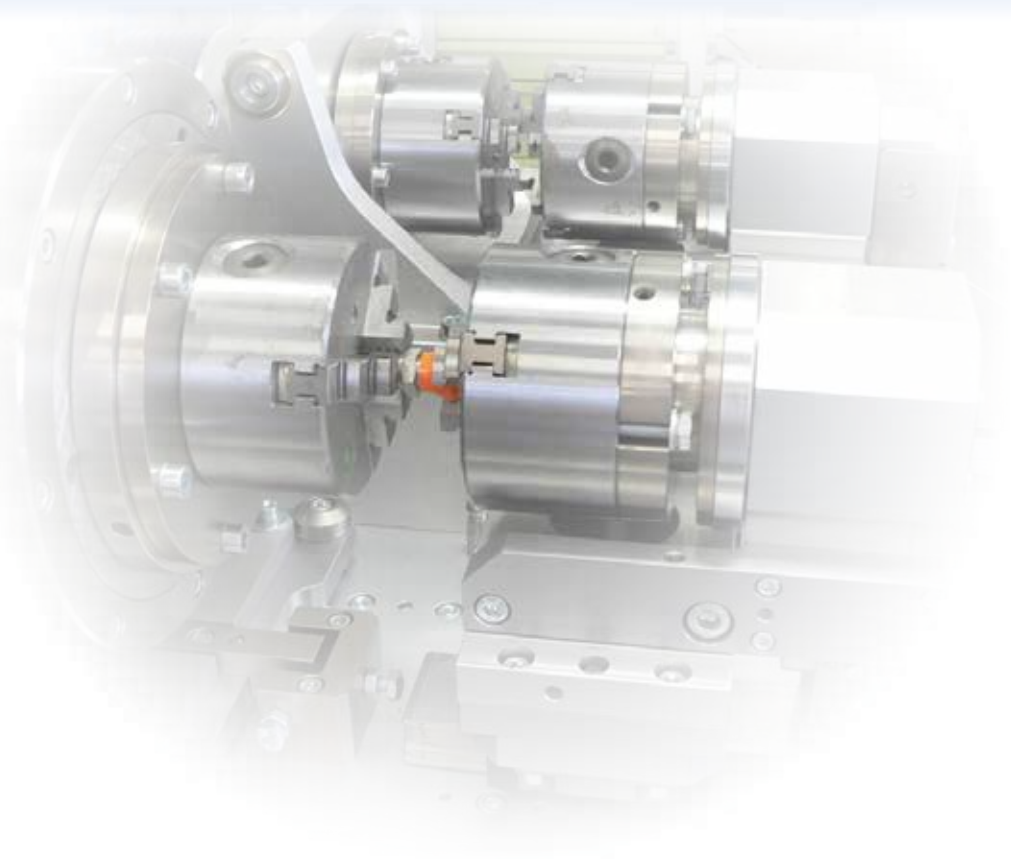
These machines, ideal for prototyping and suitable for the mass production of small and precise components, can be equipped with a series of specific accessories for LASER welding: rotating axes, manual or automatic tailstocks and loading cells.



The quick and flexible  
solution for the  
highest quality  
LASER welding

## TECHNICAL DATA

DIMENSION - excl. LASER source	≈ L 1.800 - P 1.300 - H 2.100 mm
WEIGHT - excl. LASER source	≈ 1.000 Kg
WORKING AREA	up to 500 x 400 x 400 mm
LASER SAFETY	CLASS 1 (EN 60825-1)
LASER SOURCE	Nd:YAG - CO <sub>2</sub> - FIBER LASER
AVAILABLE AXES	up to 5 CNC
POSITIONING ACCURACY	better than ± 50 µm
POSITIONING REPEATABILITY	better than 25 µm
PROCESS GAS	Single input, CNC programmable, for compressed N <sub>2</sub> , Ar or other gas
FOCUSING HEAD ALIGNMENT	TTL camera (excl. version with CO <sub>2</sub> LASER)
MAN/MACHINE INTERFACE	CNC and/or PC with LCD monitor and keyboard
CONFIGURATION/OPTIONS	Tele-diagnosis function for technical support and remote training. Fume exhaust. Manual or pneumatic tailstock. Loads cell. Other customized solutions on demand



Examples of realized applications

# LASER welding



## fineweld serie 300

The FineWeld 300 is a system for LASER welding with pulsed Nd:YAG, CO<sub>2</sub> and Fiber LASER sources.

Constructed on a base of electro-welded bent plate and painted in RAL 9018/5021, the FineWeld 300 can be adjusted in terms of height and planarity by way of vibration absorbing rubber feet.

The system is certified as a "Class 1 LASER welding system" for Nd:YAG  $\lambda=1064\text{nm}$  or CO<sub>2</sub>  $\lambda=10.6\mu\text{m}$  in accordance with the laws in force regarding the safety of LASER emissions (EN 121100-1, EN60825).

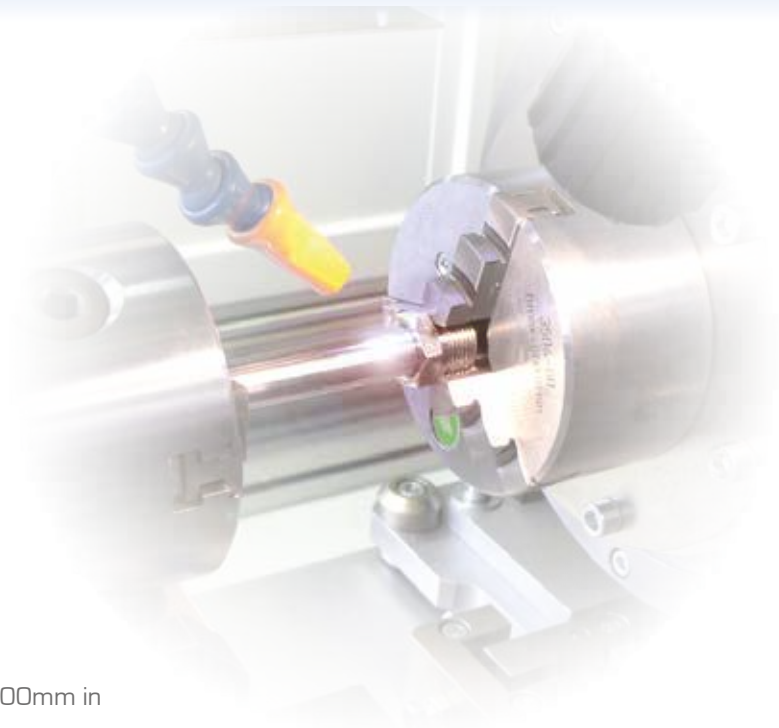
The safety guard is guaranteed by self-supporting panels, which are easily removed for maintenance purposes.

Access to the working zone is possible through the sliding door which is self-compensating in weight and open

on two sides. The overall opening measures 800mm in height and 750+675mm in width.

Developed on a system of cartesian axes and structured according to the "split axis" concept, the FineWeld 300 presents a Y linear table, that moves the component being machined, and a X - Z axis group, fixed on a portal, for the movement of the cutting head.

Ideal for prototyping and suitable for the mass production of small and medium components, this machine can be equipped with a series of specific accessories for LASER welding: rotating axes, manual or automatic tailstocks and loading cells.

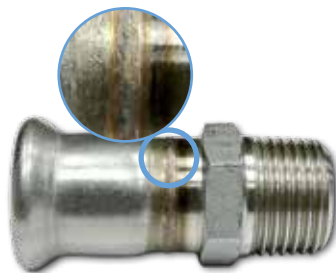


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highest quality  
LASER welding



## TECHNICAL DATA

DIMENSION - excl. LASER source	L 1.800 - P 1.400 - H 2.400 mm
WEIGHT - excl. LASER source	≈ 1400 Kg
WORKING AREA	800 x 400 mm
LASER SAFETY	CLASS 1 (EN60825-1)
LASER SOURCE	CO <sub>2</sub> - ND:YAG - FIBER
AVAILABLE AXES	up to 4 CNC
POSITIONING ACCURACY	better than ± 25 µm (single axis)
POSITIONING REPEATABILITY	better than 15 µm (single axis)
MAXIMUM SPEED	250 mm/sec (single axis)
MAXIMUM PAYLOAD ON AXIS	50 Kg
PROCESS GAS	Double input, CNC programmable, for N <sub>2</sub> , O <sub>2</sub> , Ar
FOCUSING HEAD ALIGNMENT	TTL camera (excl. version with CO <sub>2</sub> LASER)
MAN/ MACHINE INTERFACE	CNC and/or PC with LCD monitor and keyboard
CONFIGURATION/OPTIONS	Tele-diagnosis function for technical support and remote training. Fume exhaust. Manual or pneumatic tailstock. Loads cell. Other customized solution on demand



Examples of realized applications

# plastic welding



## ***fineplast*** serie 100

The LASER welding of polymers is carried out by putting a transparent material into contact with an absorbent material; the LASER beam passes through the transparent and heats the absorbent to fusion point. The welding takes place when the heated absorbent material makes contact with the transparent one.

In comparison to traditional systems, there are many advantages: perfectly aesthetic and sealed connections, no vibrations on the welded parts, reduced heat input, high process speed and flexibility in components design.

Osai Automation Systems offer the possibility to realize complete process development, searching ideal material and contours for the LASER welding.

The “turnkey” solutions that will be used for mass production include the LASER source, the adequate movements and the positioning realized for all types of product. These solutions incorporate completely manual loading and unloading or a rotating table for the machining of products in masked time with the loading and unloading on the machine.

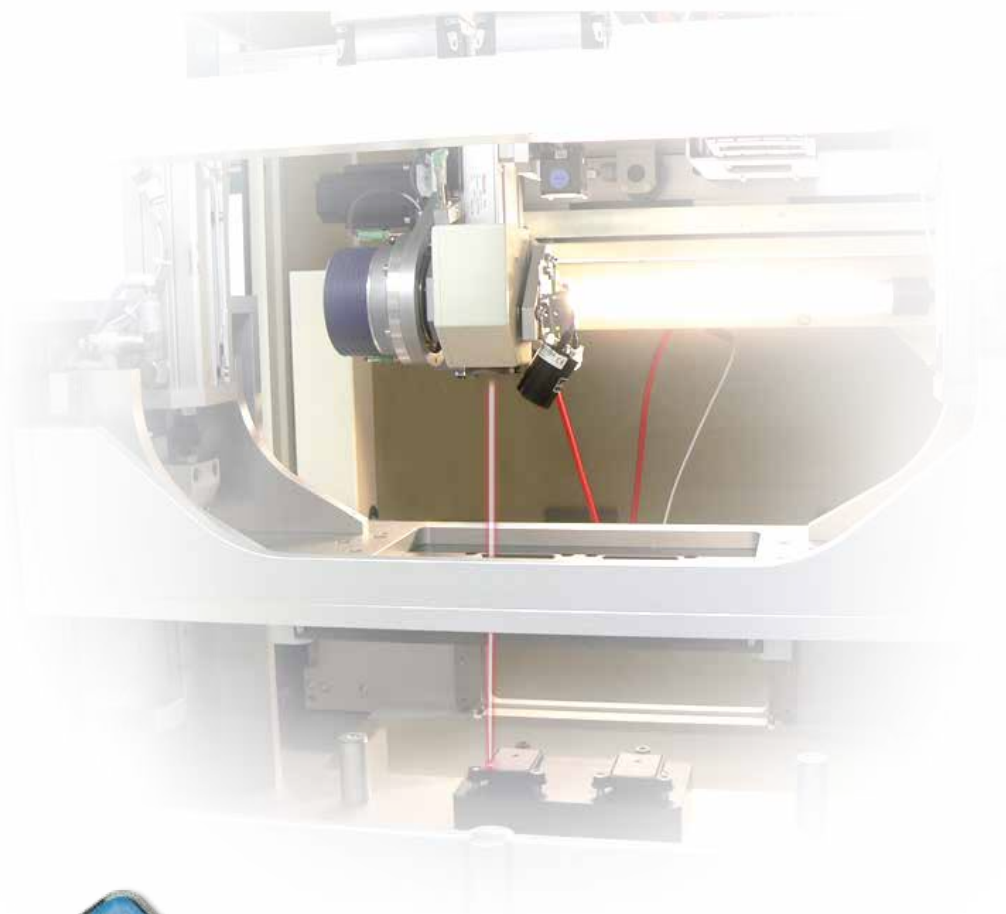
Nd:YAG, Direct Diode or Fiber LASER sources, with variable power from 10 to 400W, can be used; depending on the polymers to weld and the welding speed requested. As a consequence of the weldability of the chosen polymers and the conformation of the components to weld, it is possible to choose the machine configuration suitable for the process.



The quick and flexible  
solution for the  
LASER polymer welding

## TECHNICAL DATA

DIMENSION - incl. LASER source	L 1.800 - P 1.300 - H 1.960 mm
WEIGHT - incl. LASER source	≈ 1.200 Kg
ROTARY TABLE	700 mm (only for the fineplast Y100 Rot)
WORKING AREA	up to 400 x 400 mm
LASER SAFETY	CLASS 1 (EN60825-1)
AVAILABLE AXES	up to 5 CNC
POSITIONING ACCURACY	better than $\pm 25 \mu\text{m}$
POSITIONING REPEATABILITY	better than $\pm 15 \mu\text{m}$
IMPORTABLE GRAPHICS FILES	HPGL, DXF, ISO and others
MAN/MACHINE INTERFACE	Through PC with LCD monitor and keyboard
SYSTEM MANAGEMENT SOFTWARE	Intuitive and graphic, interfaceable with the company information system to communicate codings and production data
CONFIGURATION/OPTIONS	Tele-diagnosis function for technical support and remote training. Fume exhaust. Static or dynamic manostat



Examples of realized applications

# LASER marking



**DM 1**

The base is in welded bent plate and is RAL 9002 painted. It has an integrated electrical control board.

The system is certified as a "Class 1 marking system LASER" for Nd:YAG  $\lambda=1064\text{nm}$  or  $\text{CO}_2$   $\lambda=10.6\mu\text{m}$  sources in accordance with the laws in force regarding the safety of LASER emissions (EN 12100-1, EN60825).

It has an aluminium workbench, with an area of 600 x 500 mm, on the inside of the machining chamber for supporting the components to be machined, as well as threaded holes and pins for the rapid and precise fixing of the positions of the components' fixtures.

It has an electrically servo-assisted vertical axis with a manual push-button control for the focusing of the

LASER with a 400 mm stroke. Movement on recirculating ball guide-ways and trolleys, worm-screw operated. Lateral access is by way of a manually operated horizontal door.

More than 30 standard options are available, to guarantee the maximum flexibility of the system. The inspection window on the lateral door is filtered for LASER emissions.

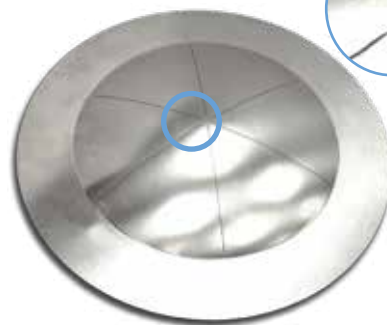
These machines, ideal for prototyping and mass production of small and precise components, can be equipped with a series of specific accessories for LASER marking: rotating axes, visual systems or controlled axes.

The quick and flexible  
solution for the  
LASER marking



## TECHNICAL DATA

DIMENSION - excl. LASER source	≈ L 1.800 - P 1.300 - H 2000 mm
WEIGHT - excl. LASER source	≈ 900 Kg
WORKING AREA	up to 600 x 500 x 400 mm
LASER SAFETY	CLASS 1 (EN60825-1)
LASER SOURCE	Nd:YAG - CO <sub>2</sub> - FIBER
AVAILABLE AXES	up to 4 CNC
POSITIONING ACCURACY	better than ± 50 µm
POSITIONING REPEATABILITY	better than 25 µm
FOCUSING HEAD ALIGNMENT	TTL camera (excl. version with CO <sub>2</sub> LASER)
MAN/MACHINE INTERFACE	CNC and/or PC with LCD monitor and keyboard
CONFIGURATION/OPTIONS	Tele-diagnosis function for technical support and remote training. Fume exhaust. Manual or pneumatic tailstock. Loads cell. Other customized solution on demand



Examples of realized applications



# LASER marking



## DM 2

A LASER marking station with masked loading/unloading permitted by a rotary table. The main characteristics are: welded steel frame, RAL 9002 painted, with an integrated electrical control board.

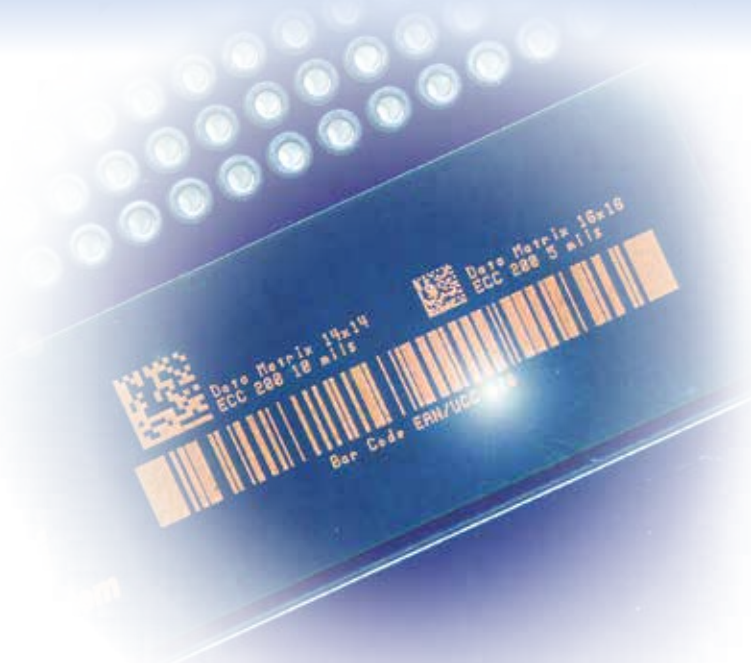
Certified as "Class 1 LASER welding system" for Nd:YAG  $\lambda=1064\text{nm}$  or  $\text{CO}_2$   $\lambda=10.6\text{ }\mu\text{m}$  sources in accordance with the laws in force regarding the safety of LASER emissions (EN 12100-1, EN60825).

An electromechanical globoid-cam rotary table in aluminium (Alcoa), with two stations (diameter: 700 mm) and 300 mm high separators. Each station has threaded holes and pins for the rapid and precise fixing of the

positions of the positions of the components. The absolute precision of the fixing of the positions of the components is higher than  $50\text{ }\mu\text{m}$ ; the repeatability, higher than  $10\text{ }\mu\text{m}$ .

Frontal access for the operator with a 850 mm table plane. Manually operated lateral access to the horizontal door. Inspection window, on the lateral door, filtered for LASER emissions.

These machines, ideal for prototyping and mass production of small and precise components, can be equipped with a series of specific accessories for LASER marking: rotating axes, visual systems or controlled axes.



The quick, flexible and efficient solution for the LASER marking

## TECHNICAL DATA

DIMENSION - excl. LASER source	≈ L 2.200 - P 1.300 - H 2.000 mm
WEIGHT - excl. LASER source	≈ 1.000 Kg
WORKING AREA	700 mm
OPERATOR ACCESS	frontal with table's surface at 850 mm side through manual door
LASER SAFETY	CLASS 1 (EN 60825-1)
LASER SOURCE	Nd:YAG - CO <sub>2</sub> - FIBER
AVAILABLE AXES	up to 4 CNC
TURNING TABLE POSITIONING ACCURACY	better than ± 50 µm
TURNING TALE POSITIONING REPEATIBILITY	better than 10 µm
FOCUSING HEAD ALIGNMENT	TTL camera (excl. version with CO <sub>2</sub> LASER)
MAN/MACHINE INTERFACE	CNC e/o PC con monitor LCD e tastiera
CONFIGURATION/OPTIONS	Tele-diagnosis function for technical support and remote training. Fume exhaust. Other customized solution on demand



Examples of realized applications



# LASER marking



**DM 2 c**

DM2c is a compact “all in one” system, including the LASER source, characterized by a structure that is highly ergonomic thanks to the sitting working position.

The PC is integrated into the machine frame with frontal LCD display, the keyboard and the mouse are positioned into an easy-access foldaway drawer, in order to be protected during the working activities and to maintain compact dimension.

The start button can be activated by the frontal console or by apposite control pedals.

Thanks to the turning table it is possible a masked time LASER processing that allows a higher efficiency.

Moreover the access to the working area through side door makes the set up activities easy and it is very functional for the little series.

The Z axis for the LASER focusing is operated electrically and the measure control is easily conducted via software. The installation is easy and fast thanks to the retractable wheels which allow the positioning of the system also against a wall.



The compact  
and flexible  
solution for the  
LASER marking



## TECHNICAL DATA

DIMENSION - incl. LASER source	L 1350 - P 825 - H 1700 mm
WEIGHT - incl. LASER source	650 Kg
WORKING TABLE HEIGHT	850 mm
TABLE DISK DIAMETER	500 mm
TABLE SEPARATORS HEIGHT	200 mm
TURNING TIME	1,25 sec
LASER SAFETY CLASS	CLASS 1 (EN 60825-1)
MAN/MACHINE INTERFACE	through PC with LCD monitor and foldaway keyboard
CONFIGURATION/OPTIONS	Visual system - Fume exhaust Telediagnosis function for technical support and remote training Other customized solution on demand



Examples of realized applications



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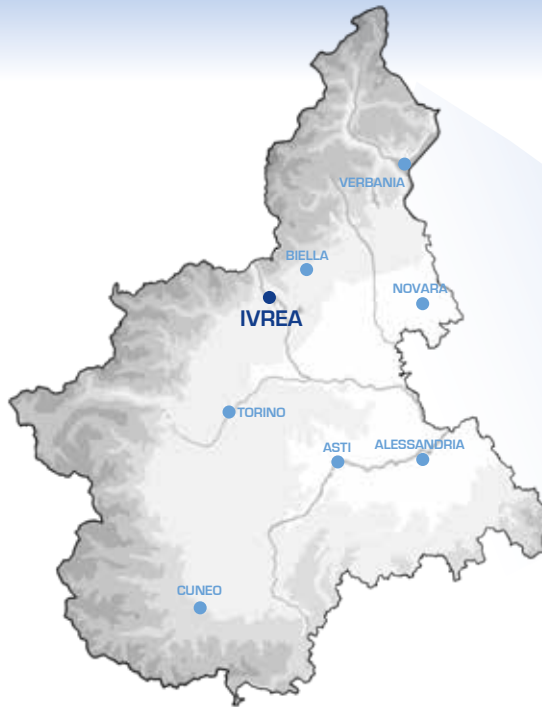
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LASER CLASS 1

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