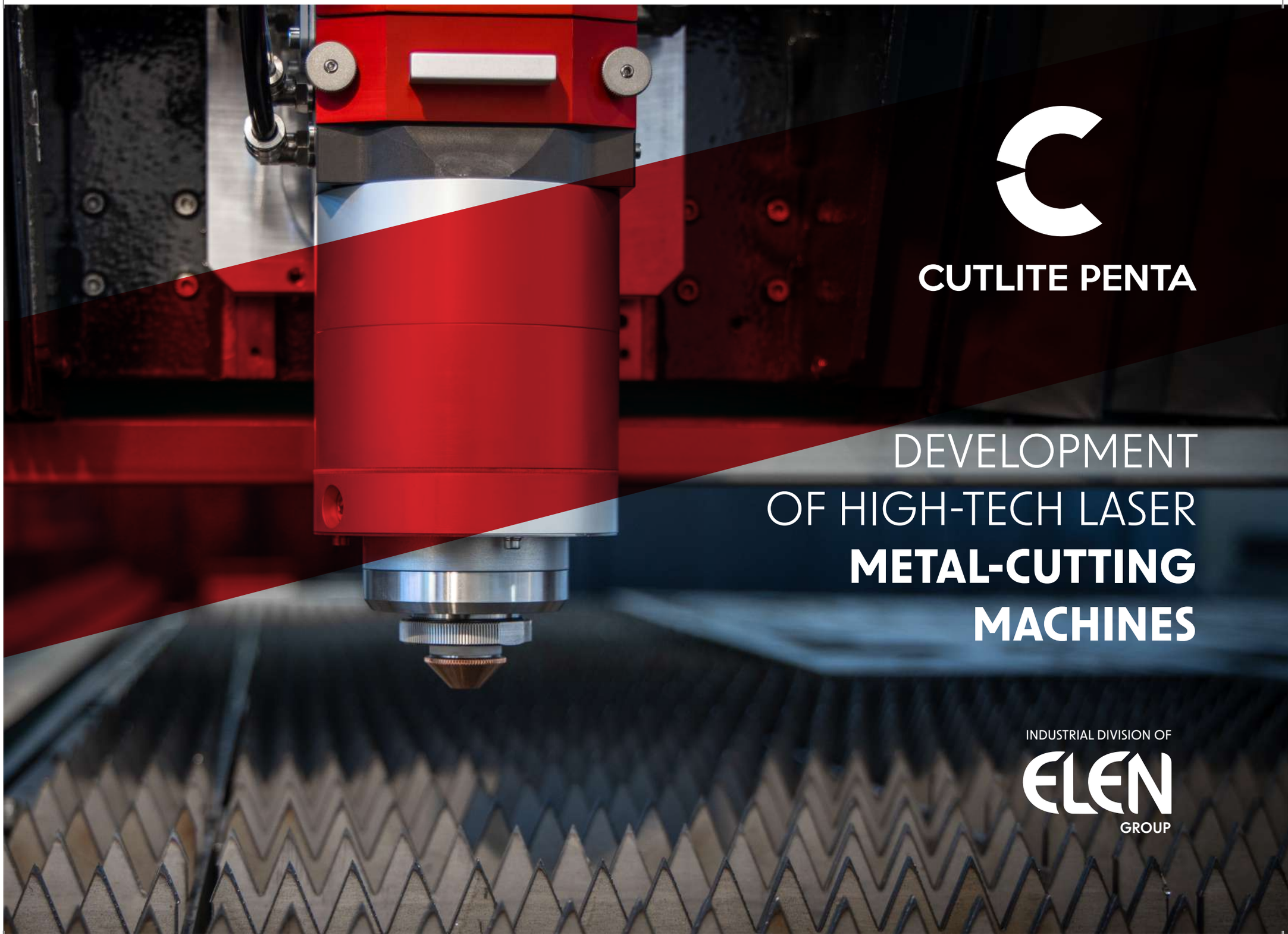


CUTLITE PENTA

DEVELOPMENT OF HIGH-TECH LASER **METAL-CUTTING MACHINES**

INDUSTRIAL DIVISION OF

ELEN GROUP

Contents

pilses® maquinaria y herramientas

Iron sample *35 mm*

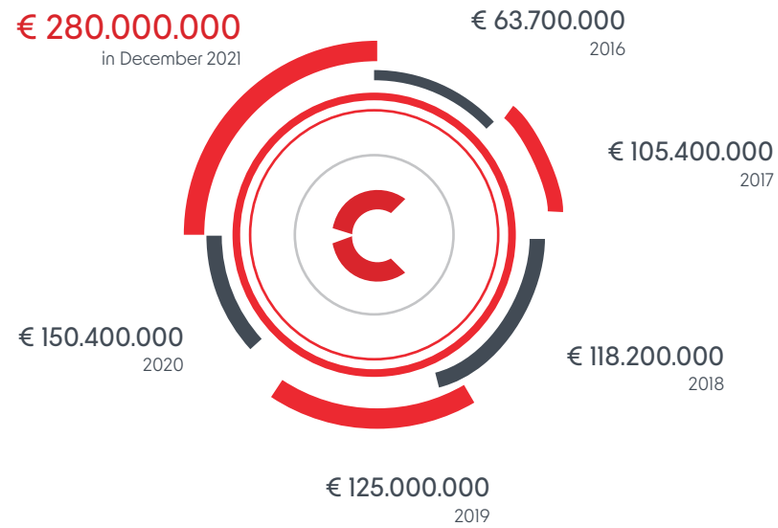
THE COMPANY

Cutlite Penta was founded in 1992 as a division of the El.En. group, and began construction of the first machines to cut wood and plastic materials using resources that were **designed and constructed at El.En**. The group grew steadily over the years, expanding both in the industrial and medical sectors. El.En. Group is a well-established Italian company, listed on both the Italian and US stock exchanges, with a market capitalisation of almost €1.34 billion. Cutlite Penta forms part of the industrial division of the El.En. Group, and has manufacturing and sales facilities around the world: Italy, France, China, and Brazil.

To date, it employs over 850 people as direct employees of the industrial group, includes over 5,500 laser machines equipped with fibre laser sources installed worldwide, and over 80,000 m² of manufacturing space.
Long-running, well developed experience combined with a profound knowledge of the dynamics of metal cutting have allowed us to become a standard for our customers. The industrial group, which had a total turnover of €63 million in 2016, has been growing at a dynamic pace, reaching a turnover of €150 million by the end of 2020. **In December 2021, the industrial group closed the year with a total turnover of €280,000,000.**

Despite the difficulties caused by the international emergency, the group's growth has been steady and exponential. In 2021, the turnover in the first six months of operation already exceeded the previous year's figure. With hard work and dedication, Cutlite Penta is consolidating its position as a global player in metal laser cutting, developing, designing and manufacturing each and every part of the cutting systems in-house.

INDUSTRIAL GROUP TURNOVER



MISSION

Cutlite Penta's objective has always been to create systems that guarantee high levels of productivity and quality with low running costs, enabling its customers to be extraordinarily competitive.
Cutlite Penta's **R&D department**, which is continually developing its cutting head, proprietary CNC and front-end software, ensures that Cutlite Penta systems are always state-of-the-art.
Flexibility, speed, simplicity of use and ease of familiarisation, are the distinctive features of this new family of systems that will place our customers in a position of being market leaders.

OUR FIGURES

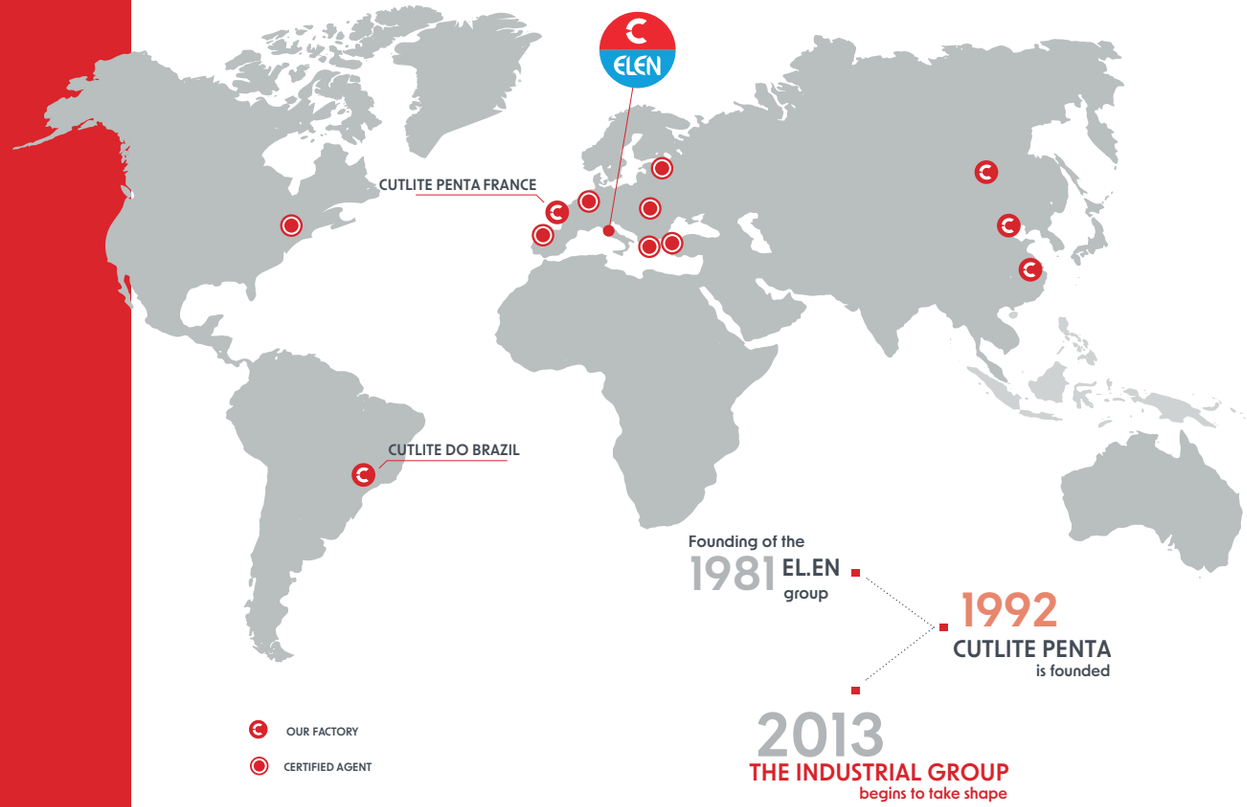
850

employees

80.000 m²

manufacturing areas

YEARS OF EXPERIENCE AND KNOW-HOW AT YOUR DISPOSAL



Based on El.En. Group's decades of experience with CO2 laser sources, we have transferred and perfected this advanced, multi-disciplinary know-how from the field of CO2 laser technology to the field of **FIBRE LASER TECHNOLOGY**.

By partnering with the world's largest manufacturer of laser sources, IPG Photonics, we have access to the best fibre laser sources to develop fast, high-power machines.

THE FIRST IN EUROPE TO INSTALL HIGH-POWER

LASER SOURCES ON CUTTING MACHINES

MULTIDISCIPLINARY TECHNOLOGY ON ALL OUR MODELS

FLY CUT
Proprietary on-the-fly cutting technology

FLY PIERCING
Piercing of moving material

LINEAR MOTORS
We only use linear motors in all the systems we manufacture

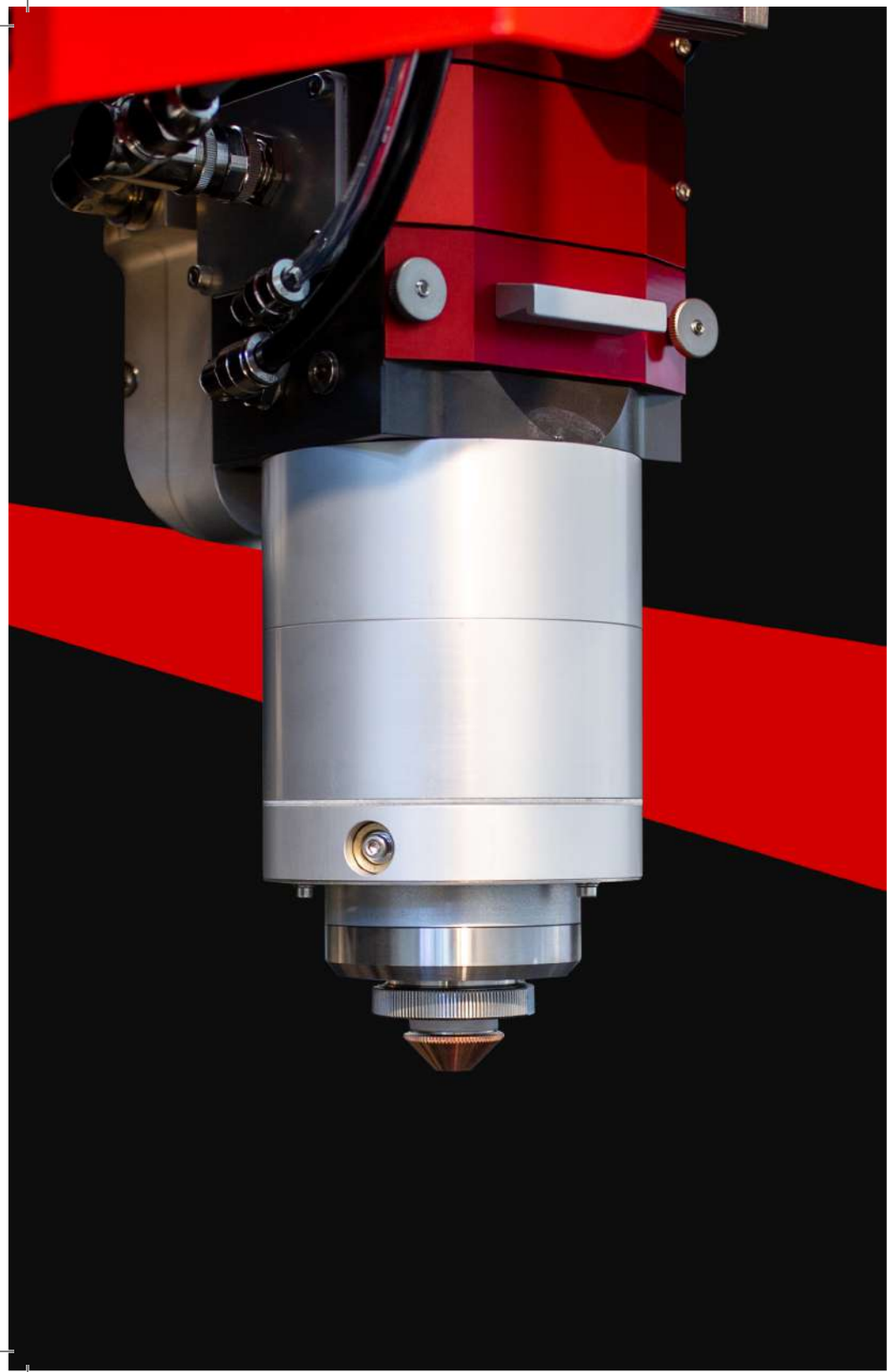
ABSOLUTE ENCODERS
Guaranteed axis positioning with no need for machine zeroing

CUTTING HEAD
In-house designed and manufactured for all models, enabling high-power handling and significant savings in terms of gas (-20%)

SMART MANAGER 6
Software machine management is identical on all models

SMART COMPOSER
Integrated CAD/CAM on all installed systems

RASTER MODULE
Software and hardware module for image reproduction on sheet metal



EVO 3 HEAD FOR PLUS AND LME

The Evo 3 cutting head is equipped with a **capacitive sensor**. FIBER PLUS and LME systems use the **Evo 3 autofocus cutting head**, which was designed exclusively by our R&D department and manufactured using Cutlite Penta high-precision mechanical engineering, and is equipped with a contact-free capacitive sensor. The head itself and the focusing lenses can be used with up to **30 kW** laser power and a pressure of 25 bar. A variety of focal configurations are available. The assist gas is **automatically selected** from the 3 different connectible gases - air, nitrogen and oxygen - whose assist pressures are determined automatically on the basis of cutting parameters and materials. The head has a removable cartridge to facilitate replacement of the protective glass.

CAPACITIVE HEAD

- Integrated contact-free capacitive sensor
- High-pressure gas management
- Cartridge to change focal length
- Connections located entirely at the top
- Contact and impact error management
- Focal lengths of 150 mm - 300 mm
- Maximum pressures 25 bar

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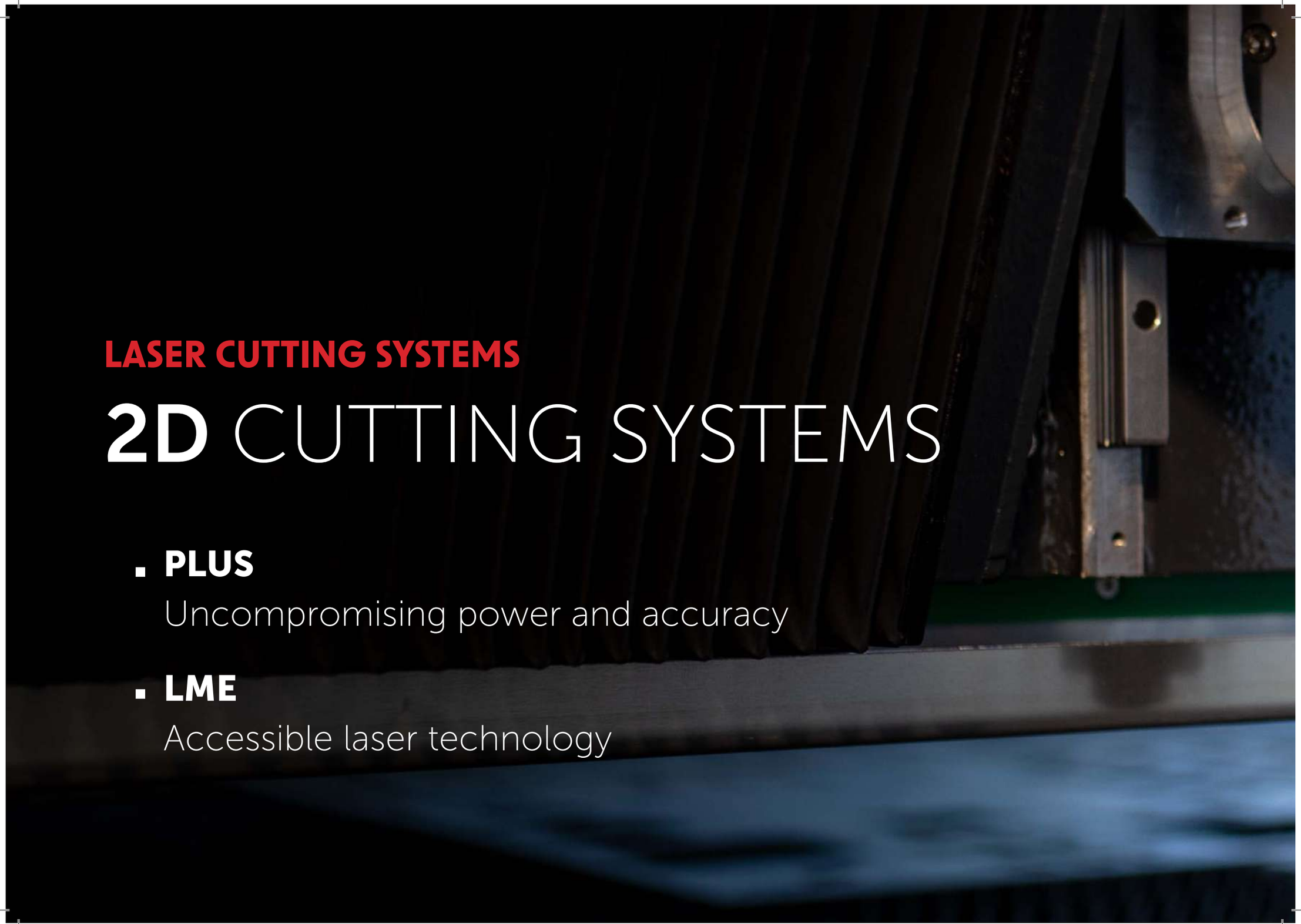
Iron sample 10 mm

PERFORMANCE ACHIEVABLE WITH A 30 KW SOURCE

16 MM STAINLESS STEEL WITH A CUTTING SPEED OF 9 METRES/MINUTE USING 5 BAR OF NITROGEN

20 MM STAINLESS STEEL WITH A CUTTING SPEED OF 6 METRES/MINUTE USING 6 BAR OF NITROGEN

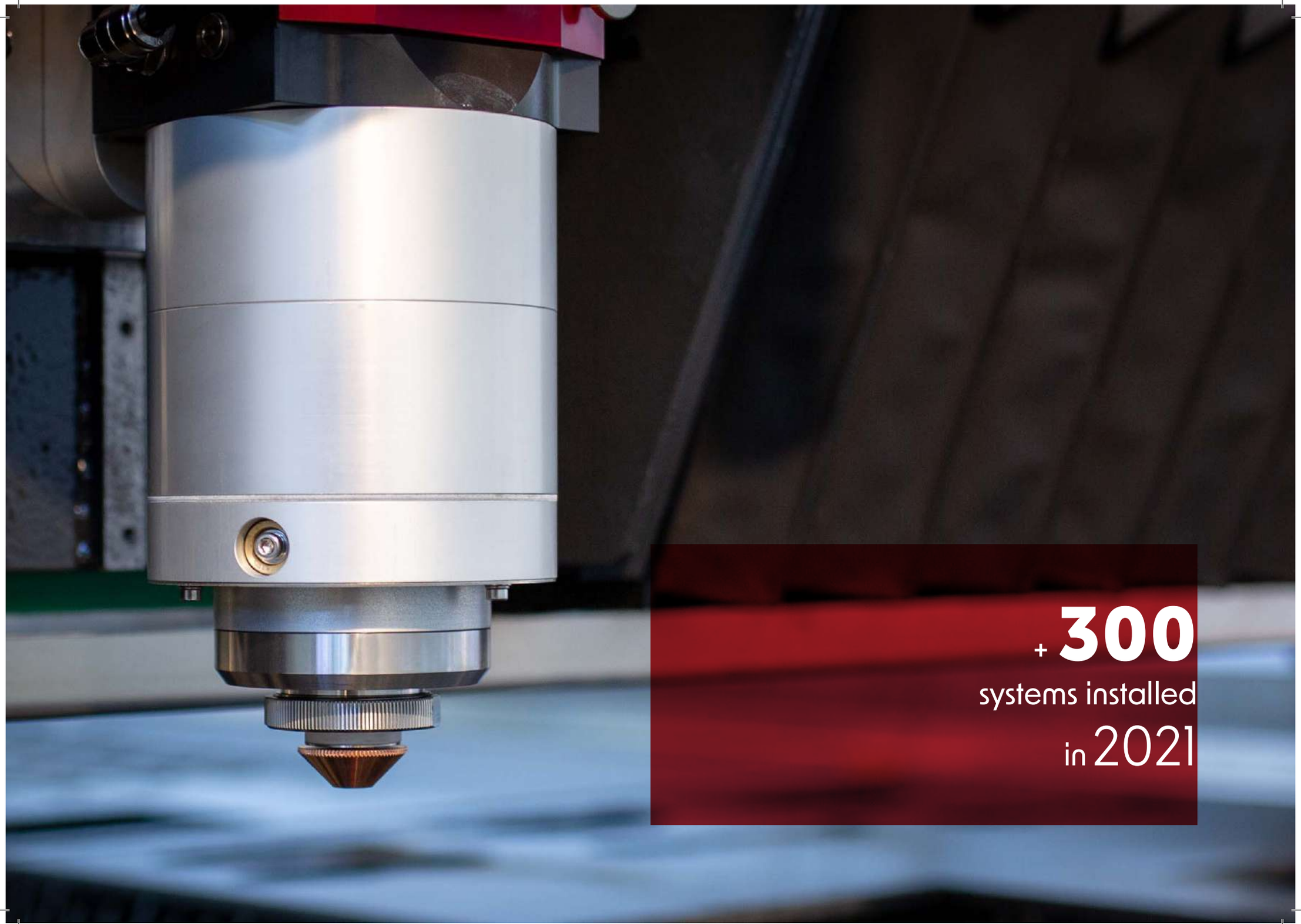
30 MM STAINLESS STEEL WITH A CUTTING SPEED OF 2.5 METRES/ MINUTE USING 7 BAR OF NITROGEN



LASER CUTTING SYSTEMS

2D CUTTING SYSTEMS

- **PLUS**
  Uncompromising power and accuracy
- **LME**
  Accessible laser technology


+ 300
systems installed
in 2021

PLUS

WORKING AREA UP TO
15000x3000 mm

POWER UP TO
30 kW

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PLUS

Cutlite Penta's **FIBER PLUS** family of laser systems combines high **quality**, high **productivity** and low operating costs.
Handling quality is guaranteed by the finest linear motors available on the market which, in conjunction with the Fiber laser source, achieve **the highest levels** of dimensional **accuracy** in cutting both carbon and stainless steels.
These features, together with the simplicity and **stability** of the optical path, converge towards highly optimised, **repeatable** and **dependable** results.
The fluid dynamics of the cutter head, **designed and manufactured** in-house by Cutlite Penta, delivers cuts with lower pressures when compared to the competitors.

This results in a considerable saving in manufacturing costs.
A few examples: with a Fiber Plus system equipped with a **30 kW** source, it is possible to cut 16 mm stainless steel at a speed of 9 metres/minute using 5 bar of nitrogen; 20 mm stainless steel at a cutting speed of 6 metres/minute using 6 bar of nitrogen; 30 mm stainless steel at a cutting speed of 2.5 metres/minute using 7 bar of nitrogen.

Mechanical design

The base is an electro-welded, **thermally stabilised steel** frame, which is then machined to accommodate the high-precision guides and linear motors. The Gantry frame is made up of **cast aluminium alloy tables** to which a steel beam is anchored, which is light and stiff enough to compensate for thermal expansion **with no deformation**. This type of configuration provides remarkable dynamic performance.

Offcut recovery

The work table is divided into **modular sections** each approximately 500 mm long, which direct the offcuts to the corresponding collection systems located beneath the frame. Each section is equipped with two suction inlets.

Work table

The work table consists of a **replaceable support grille**. The same laser machine can also be used to produce the grille using a pre-installed program in the numerical control.

Laser sources

Fiber laser sources provide a great deal of versatility and make it possible to cut a multiplicity of **metal types**. Developed as a single system, it can be paired with a **wide variety of optical fibre diameters**. High efficiency, excellent beam quality and low power consumption are all hallmarks of the source. The source is housed in a **NEMA 12** cabinet which is conditioned and sealed so that it can operate even in the harshest of environments.
The high degree of reliability of these sources ensures very low maintenance costs.

FIBER PLUS systems combine high performance levels, structural robustness and increased efficiency. The linear motor drive provides very responsive dynamics, enabling excellent productivity even on extremely complex geometries.

TECHNICAL SPECIFICATIONS

PLUS MODEL	WORKING AREA
3015	3000x1500mm
3020	3000x2000mm
4020	4000x2000mm
6020	6000x2000mm
6025	6000x2500mm
6030	6000x3000mm
8020	8000x2000mm
8025	8000x2500mm
8030	8000x3000mm
9025	9000x2500mm
9030	9000x3000mm
12030	12000x3000mm
13030	13000x3000mm
14025	14000x2500mm
14030	14000x3000mm
15020	15000x2000mm
15030	15000x3000mm

LASER POWER
2.000 W
3.000 W
4.000 W
6.000 W
8.000 W
12.000 W
15.000 W
20.000 W
30.000 W

Z-AXIS

Variable **z-axis** travel as required

HIGH DYNAMIC PERFORMANCE LINEAR MOTORS

One of CUTLITE PENTA'S strengths is that it can, in certain circumstances, meet customer requirements by **increasing the dimensions** of the system as required.

Iron sample 20 mm

STRENGTHS

- In-house designed fiber cutting head.
- Framework with excellent mechanical properties.
- Limited investment and reduced running costs.
- Option of choosing different configurations and adapting the system to suit personal manufacturing requirements.

Our systems correctly reflect the fundamental concepts provided by fibre laser technology, combining efficiency and effectiveness with ease of installation and maintenance, space saving, excellent reliability and high performance. Resulting from the seamless integration of each individual component.

HARDWARE SOLUTIONS

AUTOMATIC NOZZLE REPLACEMENT

Automatic nozzle replacement is an option whereby the machine automatically changes the cutting head nozzle with no need for operator involvement.

CAMERA

A position camera that enables remote monitoring and viewing of machine operation.

TWO-LEVEL WORKTABLE CHANGEOVER

Two-level worktable changeover allows the table to be changed in approximately 15 seconds, almost completely masking loading and unloading times – the fiber plus system is the fastest on the market today.

PALLET LIFT CHANGEOVER

This optional extra allows optimisation of processing times by reducing loading and unloading times of the sheet metal

AUTOMATION

This option allows optimisation of processing times, almost entirely masking loading and unloading times.

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Iron sample 20 mm

FIBER PLUS BEVEL HEAD

Bevel cutting is the process of cutting a workpiece with an edge that is not perpendicular to the top of the piece. This is carried out to increase the surface area of the edge for a stronger and more secure weld.

There are a number of different types of bevel edges. Edges are specified throughout the industry by a letter of the alphabet that most closely resembles the shape of the cut as seen in cross-section. The most common types of bevel cut include v, a, x, y upward, y downward and k. The head designed by Cutlite Penta **allows** these processes to be carried out **without compromising** the classic flat cut. The head, which is innovative in its engineering, takes up very little space, it is light and uses the same bases as the flat machines without compromising on any of its technological features. It can also rotate ±45° in both cutting directions.

STRENGTHS

- Z-axis 350 mm
- Machine dimensions identical to those of a standard plane
- Autofocus cutting head with contact-free capacitive sensor.
- An automatic system for focal length adjustment and # 6 sensors for fast piercing
- Double protective glass
- Sealed lens cartridge

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Iron sample 30 mm

LME

WORKING AREA UP TO
7000x2000 mm

POWER UP TO
15 kW

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LME

Cutlite Penta's Cutlite LME family of laser systems combines **high quality**, high productivity and **low operating costs**. Handling quality is guaranteed by the **finest linear motors** available on the market which, in conjunction with the Fiber laser source, achieve the **highest levels of dimensional accuracy** in cutting both carbon and stainless steels. These features, together with the simplicity and stability of the optical path, converge towards highly optimised, **repeatable** and **dependable results**.

The fluid dynamics of the cutter head, designed and manufactured by Cutlite Penta, delivers **high-pressure cutting** while consuming **less nitrogen** compared to the competitors. This results in a considerable saving in manufacturing costs. All this makes the LME laser system one of the most efficient and **reliable** on the market.

Mechanical design

The base is an electro-welded steel frame which is then machined to accommodate the absolute high-precision guides and linear motors..

Gantry

The gantry frame is made up of a light, sturdy steel beam that is stiff enough to compensate for thermal expansion with no deformation. This type of configuration provides remarkable dynamic performance.

Offcut recovery

The work surface area is divided into modular sections each approximately 500 mm long, which direct the offcuts to the corresponding collection systems located beneath the frame. Each section is equipped with two suction inlets (these are switched automatically depending on the cutting path).

Work surface

The work surface consists of a replaceable support grille. The same laser machine can also be used to produce the grille using a pre-installed program in the numerical control. The work grille is adaptable and can be spaced as required for improved processing material handling.

Laser source

Fiber laser sources of up to 15 kW provide a great deal of versatility and make it possible to cut a multiplicity of metal types. Developed as a single system, it can be paired with a wide variety of optical fibre diameters. High efficiency, excellent beam quality and low power consumption are all hallmarks of the source.

The source is housed in a NEMA 12 cabinet which is conditioned and sealed so that it can operate even in the harshest of environments. The high degree of reliability of these sources also ensures particularly low maintenance costs.

TECHNICAL SPECIFICATIONS

LME MODEL	WORKING AREA
1010	1000x1000mm
1020	1000x2000mm
1515	1500x1500mm
3015	3000x1500mm
4015	4000x1500mm
4020	4000x2000mm
6020	6000x2000mm
6025	6000x2500mm
7020	7000x2000mm

LASER POWER
2.000 W
3.000 W
4.000 W
6.000 W
8.000 W
12.000 W
15.000 W

Z-AXIS
140 mm

LINEAR MOTORS
One of CUTLITE PENTA'S strengths is that it can, in certain circumstances, meet customer requirements by **increasing the dimensions** of the system as required.

Steel sample 5 mm

STRENGTHS

- Small and compact – its footprint on the floor is little larger than its working area.
- Concentrated technology: linear motors, process sensors and autofocus head.
- All in one – electrical panels, laser source, control panel all integrated, which guarantees high speed and excellent accuracy in the marking process.
- Quick and easy installation, in two days the machine is ready to start manufacturing for the customer.
- CAD/CAM machine integration software

The new LME fiber laser cutting system joins the Cutlite Penta family - it was created to meet the needs of the fashion accessory sector, which has long been calling for small machines with excellent speed and accuracy. This is why the 3015 version makes it an entry-level machine for customers who are currently looking for used machines with outdated technology.

HARDWARE SOLUTIONS

AUTOMATIC NOZZLE REPLACEMENT

Automatic nozzle replacement is an option whereby the machine automatically changes the cutting head nozzle with no need for operator involvement.

CAMERA

A position camera that enables remote monitoring and viewing of machine operation.

TWO-LEVEL WORKTABLE CHANGEOVER

Two-level worktable changeover allows the table to be changed in approximately 15 seconds, almost completely masking loading and unloading times – the fiber plus system is the fastest on the market today.

PALLET LIFT CHANGEOVER

This optional extra allows optimisation of processing times by reducing loading and unloading times of the sheet metal

MANUAL EXTRACTION TABLE

Manual extraction bench for loading/ unloading materials to be processed.

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LME 4020
2000W
LME 3015

SOLUTION

2D SOFTWARE SYSTEMS

- SMART MANAGER 6
- SMART COMPOSER

Our

PLUS

and **LME**

systems are compatible

with the main

CAD/Cam

available on the market.

SMART MANAGER 6

SOFTWARE FOR THE LATEST GENERATION OF **CUTTING SYSTEMS**.

The exclusively in-house designed control software has been evolving in line with market and customer demands for many years. Smart Manager 6 has been specifically developed to fully exploit the potential of the latest generation of cutting systems and guarantee optimum performance of all Cutlite Penta products. The new generation of software includes the many innovations introduced in recent years in laser cutting technology.

The interface improves the already remarkable simplicity and immediacy of operations during daily use, as well as facilitating even the most complex of cutting configurations. The new software is thus now even more intuitive and easier to manage.

In the field of CNCs (computer numerical control) dedicated to laser cutting processes, Smart Manager control provides a variety of improved and revolutionary solutions that aim to simplify and speed up the task of the operator. All this, while ensuring the highest level of safety and quality of work.

A number of the latest innovations implemented with Smart Manager are listed below. Automatic acquisition of plate edges – this feature automatically detects the position of the plate (translation and rotation) and adapts the part-program by automatically translating and rotating it with a typical accuracy of 0.5mm. The plate does not need to be moved on the table..

Scheduling: using this tool provided by the control, a list of programmes can be created which are automatically executed in succession depending on their order. This feature allows continuous cycle operation with loading/unloading and sheet metal warehouse..

Cutting lost: ithe system is equipped with light-sensitive sensors which detect cut-losses and thus processing is halted. In addition, program execution can be restarted automatically just before a cut-loss and at a lower speed than the one programmed.

Fast piercing: the system is equipped with photosensitive sensors which optimise the performance and reliability of the sheet metal piercing process, enabling small-diameter perforations to be created in a much shorter time than with traditional piercing systems..

Smart Focus: an ultra-rapid autofocus system used to position the focal length during cutting and piercing processes.

Auto Power Off: the machine features an automatic power-off system. Synchronous cutting feature: the machine includes a system that optimises release depending on processing distances.

Raster module (optional): Cutlite Penta is one of the few companies that supplies a software module for producing high and low relief images with high visual impact. The modular nature of the sources, together with the rapid acceleration of the linear motors, results in realistic three-dimensional images with high throughput.

OUR **PLUS AND LME SYSTEMS**
ARE COMPATIBLE
WITH THE MAIN **CAD/CAM SOFTWARE**
AVAILABLE ON THE MARKET.

SMART COMPOSER

CUTLITE PENTA'S **REVOLUTIONARY NEW SOFTWARE INTERFACES SEAMLESSLY** WITH THE MACHINE'S NUMERICAL CONTROL AND SMART MANAGER FRONT-END SOFTWARE.

Geometric elements: SmartComposer can insert and manage a number of geometric elements and shapes, and allows objects to be moved, rotated, scaled and mirrored. Functions are provided to split, interrupt and lengthen/shorten elements. Edges can be created with a simple click.

Profile testing: tools are available for the testing of imported profiles. In particular, invalid, duplicate or open elements can be checked. Node optimisation and reduction.

RASTER images : a software module for the creation of high-definition raster images.

Fiducial markers: SmartComposer manages markers for plane alignment via camera.

Management of orders with different materials/thicknesses: each job can manage a parts order. Parts of different materials and thicknesses can be loaded by changing quantities and descriptions. Automatic multi-level nesting with different materials/thicknesses.

Micro-joints: these can be added, either manually or automatically, optionally with lead-ins and lead-outs.

Lead-in and lead-out management: these can be added, either manually or automatically. The user chooses the type of lead-in/lead-out on a model workpiece and the software takes care of automatic insertion, observing the position of insertion points.

Cutting order: SmartComposer features an effective engine for the calculation of cutting orders. It recognises internal and external tracks and automatically sorts them.

Cutting order with minimal heating : SmartComposer can execute a cutting order that minimises heating of the sheet metal.

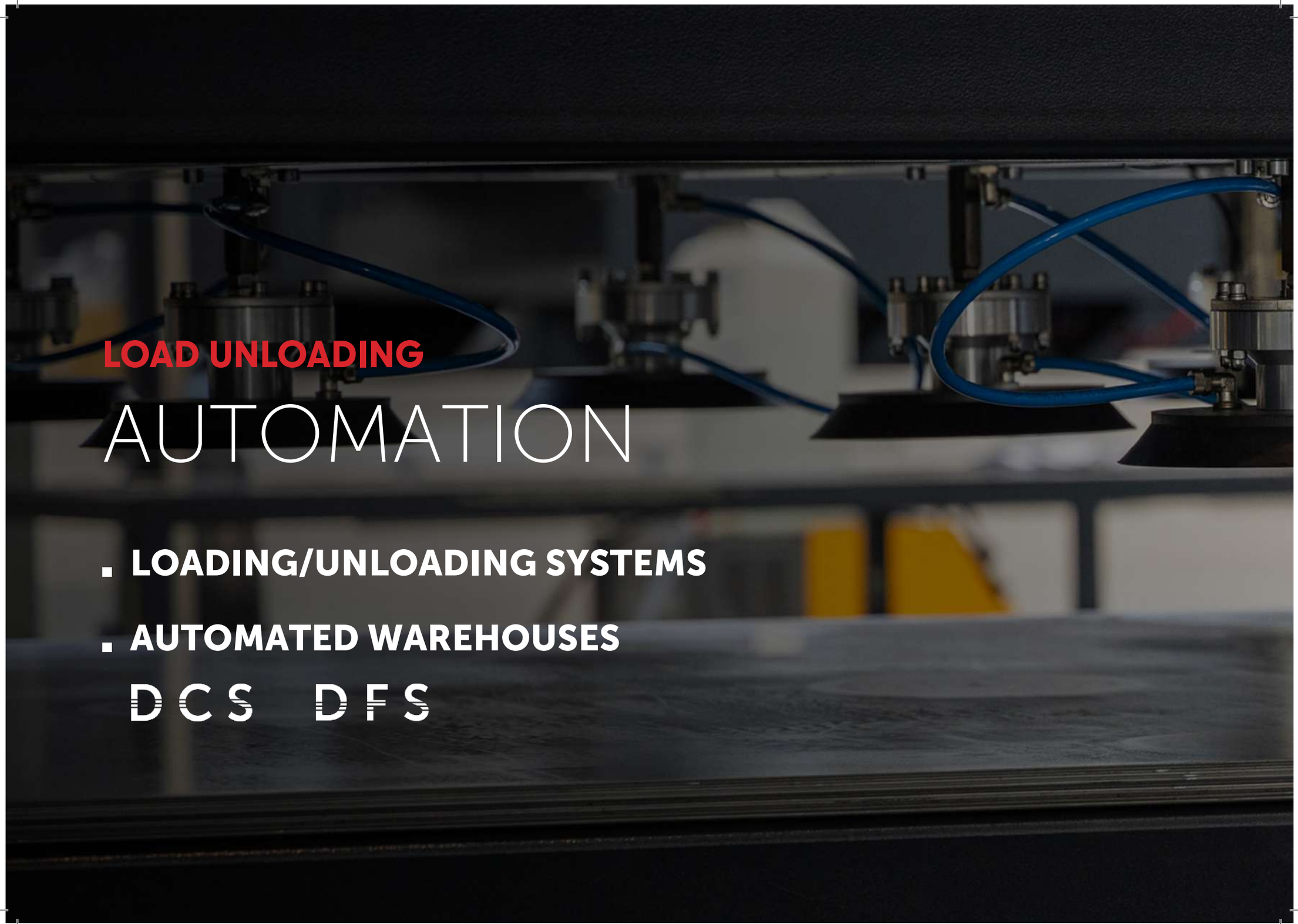
Fly cut: in complete sync with the execution capabilities of the numerical control, fly cutting can be managed, allowing fast execution of tracks containing in-line profiles.

SmartComposer camera: smart composer can manage the viewing of the cutting plane by camera. The operator can thus see everything the machine is actually cutting in real time and take a photo of the current plane. This photo, inserted as an image in the background of the cutting table, can be used to manually place workpieces close to an existing offcut.

Simulator: SmartComposer is equipped with an nc file simulator and a module for calculating estimates. Acquires nominal speeds directly from the machine for each cutting line and Manages parameters such as cost per kg. Of material and hourly cost.

Film cutting management: film cutting is managed depending on material.

Image film management: film can be removed from images, either at the workpiece or table level, and the machine can be stopped following removal. Piercing management can be used to set the execution of piercing at both workpiece and table level.

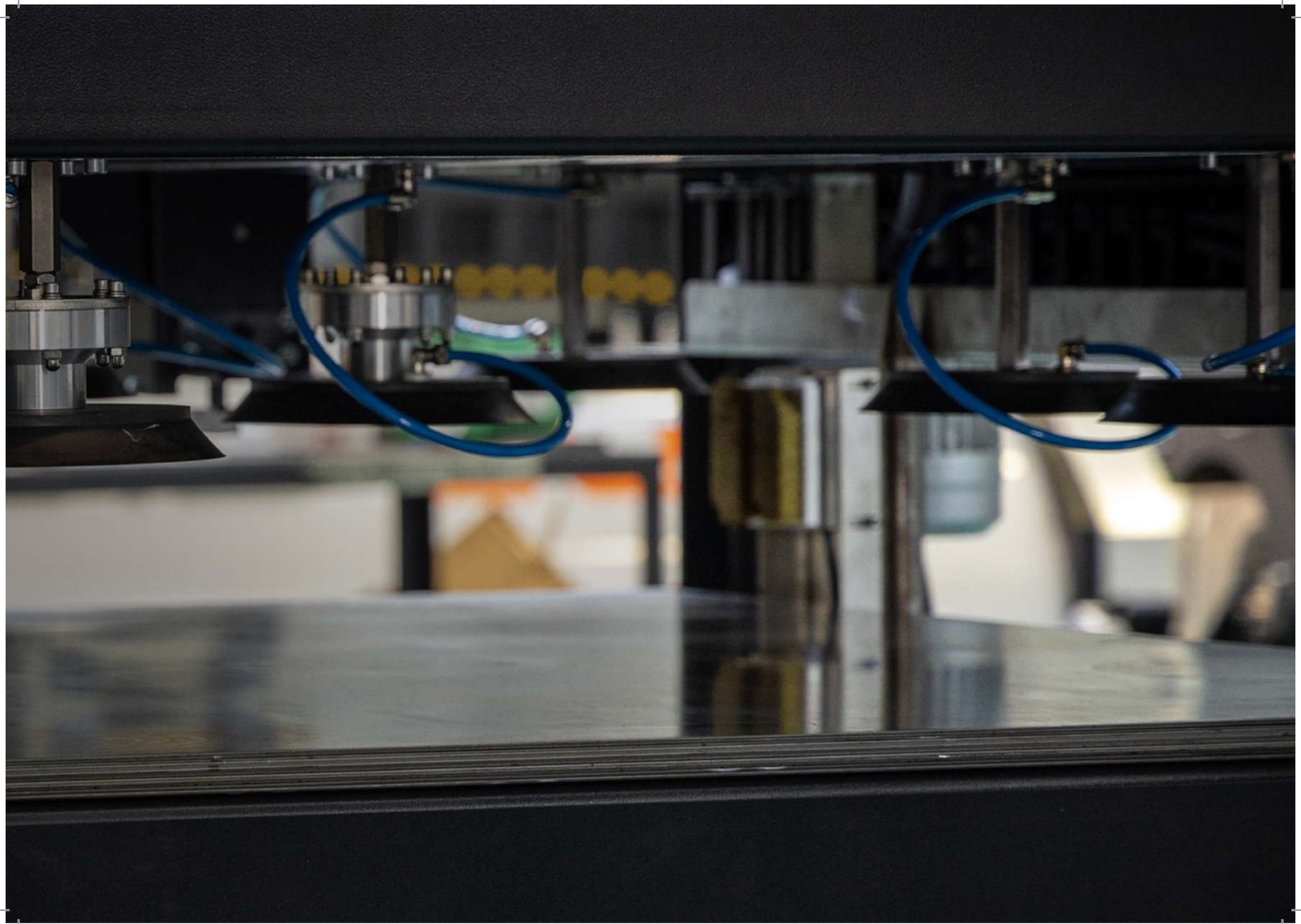


LOAD UNLOADING

AUTOMATION

- **LOADING/UNLOADING SYSTEMS**
- **AUTOMATED WAREHOUSES**

DCS DFS



LOADING/UNLOADING SYSTEMS AND WAREHOUSES

CUTLITE PENTA ALSO PRODUCES IN-HOUSE IN-LINE OR 90° **LOADING AND UNLOADING** SYSTEMS COMBINED WITH **VERTICAL STORAGE WAREHOUSES** THAT COMMUNICATE DIRECTLY WITH OUR LASER SYSTEMS..

LOADING/UNLOADING SYSTEM

A suction cup lifting unit mounted on a **carriage that travels** from loading station to laser table, equipped with two electric rear axes driven by absolute transducers.

The lifting unit **moves vertically** for gripping, displacement and sheet metal thickness control. The unit is equipped with **air blast nozzles and wire brushes.**

A fork unloader with ample vertical travel mounted above the outer table of the laser cutting machine.

The forks are driven by two axes controlled by **absolute transducers** which enable them to be lifted and inserted into the laser table beneath the sheet of metal that has been cut. A third motor allows the entire system to be moved "out of the footprint" so that the table area is free and safe from suspended loads in the event of manual loading. On request, the forks can be coated with **anti-scratch material**.

TECHNICAL DESCRIPTION OF SYSTEM

The metal loading and unloading framework is positioned above the laser pallet changer at **90° or in line** with the pallet changer. It contains a fixed shelf on which the blank material is placed and a motorised shuttle whose homing area is located above the shelf of the material to be cut. The shuttle picks up the material and takes it to the work table by means of suction cups. The upper part of the shuttle holds a tray for the cut material; during the sheet metal deposit stage onto the work table, the previously removed cut material is unloaded into the upper tray. At the end of the procedure, the shuttle returns to the homing area.

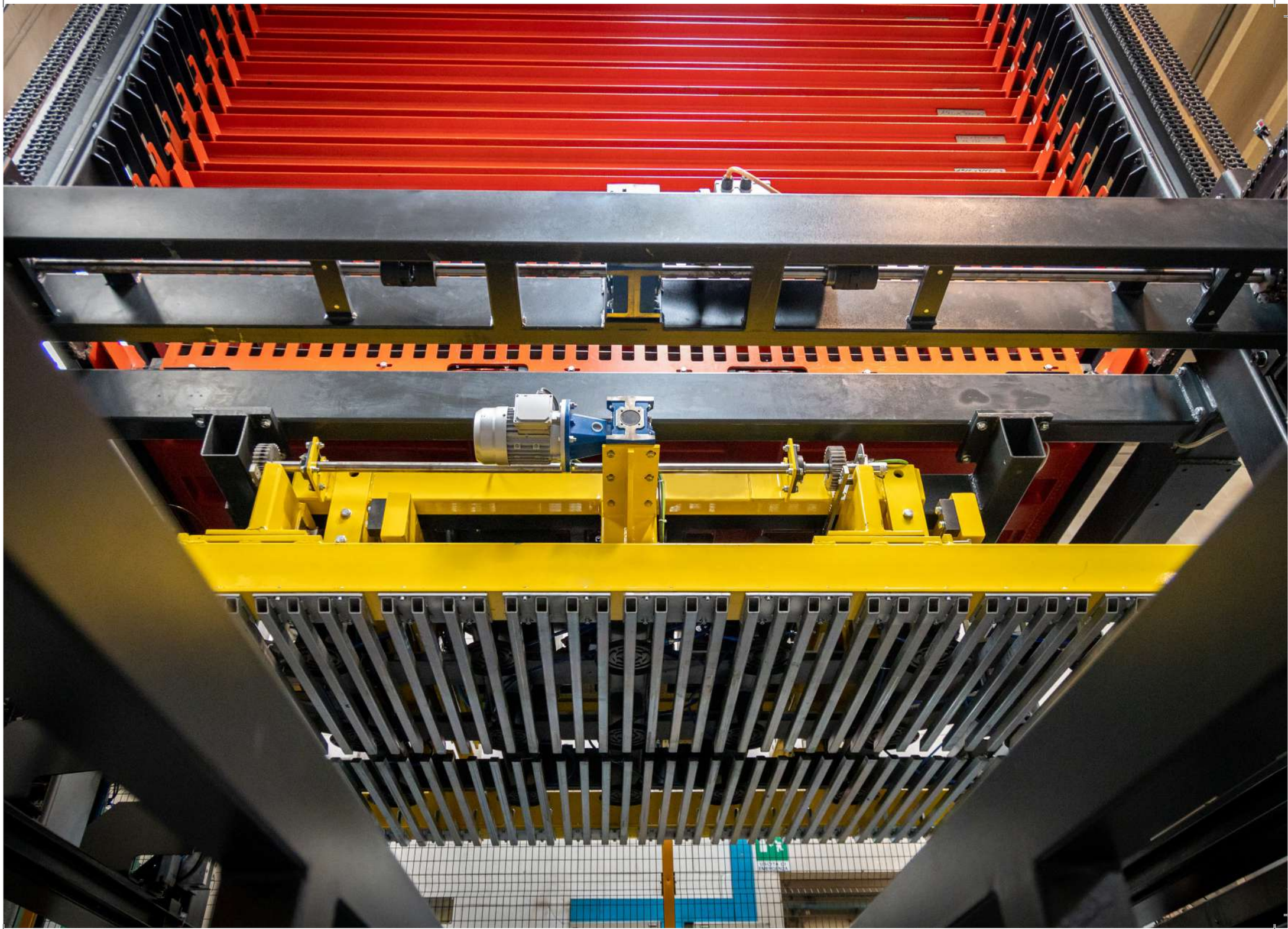
DYNAMIC COMPACT STORAGE - DCS

Highly functional, vertical storage system with varying numbers of trays. The warehouse framework, which contains the trays, is positioned above the pallet changer, such that the footprint of the framework is masked by the pallet changer. The trays are handled by a highly dynamic shuttle. The framework contains loading units for both metal sheets to be processed and processed ones.

DYNAMIC FLEXIBLE STORAGE - DFS

The automatic sheet metal loading/unloading system can be connected to an automatic storage warehouse to provide greater autonomy and optimise cutting schedules. The warehouse is designed and constructed according to specific production requirements and in relation to the space available for installation, with the total number of loading units determined according to the height of the area in which it is installed. This system allows both storage of sheets to be processed and the storage of cut material in removable cradles equipped with insertion docks for forklifts. Option of including one or more storage towers.

Both the DCS and DFS systems are controlled by supervisory software that features a simple, intuitive operator interface. This manages the quantities and details of the material in order to ensure the optimal control of available stocks. Both loading and unloading device and automatic warehouse are equipped with all **active and passive safety systems**.



3015

Max. sheet metal dimensions	3.025 x 1.520 mm
Max. thickness Single Sheet	25 mm
Max. Weight Single Sheet	900 kg
Indicative loading-unloading time	60/80 s
Sizes (mm)	2000 x 1000 2500 x 1250 3000 x 1500
Loading Tray maximum weight	3600 kg
Loading Tray available height	280 mm
Maximum loadable sheet metal stack height	100 mm
Unloading Tray maximum weight	2700 kg
Unloading Tray available height	280 mm
Maximum unloadable sheet metal stack height	100 mm
Maximum permitted sheet metal deflection	Max 50 mm
Voltage	400 V
Frequency	50 Hz
Power consumption	12 kW (cos ø = 1)
Maximum current	17.5 A
Pressure	6 bar
Pipe diameter	1/2"

4020

Max. sheet metal dimensions	4.025 x 2.025 mm
Max. thickness Single Sheet	25 mm
Max. Weight Single Sheet	1.600 kg
Indicative loading-unloading time	60/80 s
Sizes (mm)	2000 x 1000 2500 x 1250 3000 x 1500 4000 x 1500 4000 x 2000
Loading Tray maximum weight	6400 kg
Loading Tray available height	280 mm
Loadable sheet metal stack height	100 mm
Unloading Tray maximum weight	4800 kg
Unloading Tray available height	280 mm
Unloadable sheet metal stack height	100 mm
Maximum permitted sheet metal deflection	Max 50 mm
Voltage	400 V
Frequency	50 Hz
Power consumption	16 kW (cos ø = 1)
Maximum current	23 A
Pressure	6 bar
Pipe diameter	1/2"

6025				
Max. sheet metal dimensions	6.020 x 2.520 mm			
Max. thickness Single Sheet	15 mm			
Max. Weight Single Sheet	1500 kg			
Indicative loading-unloading time	80 s			
Sizes (mm)	2000 x 1000 2000 x 1500 2000 x 2000 2500 x 1250	3000 x 1500 4000 x 1500 4000 x 2000 5000 x 1500	5000 x 2000 6000 x 1500 6000 x 2000 6000 x 2500	8000 x 2000 8000 x 2500
Other sizes	880 x 4000 880 x 5000	1000 x 4000 1250 x 4000	2600 x 1000 2750 x 1250	2800 x 1000
Loading Drawer maximum mass	19000 kg			
Loading Tray available height	200 mm			
Unloading Drawer maximum mass	400 kg			
Unloading Tray available height	200 mm			
Maximum permitted sheet metal deflection	50 mm			
Voltage	400 V			
Frequency	50 Hz			
Power consumption	28 kW			
Maximum current	40 A			
Pressure	6 bar			
Pipe diameter	3/4"			
Air consumption / cycle	600 NL			

One of CUTLITE PENTA'S strengths is being able to **meet customer needs by manufacturing each individual component in-house**.

The dimensions or numbers of load cells can be modified.

FIBER LASER

LASER SOURCES

IPG FIBER LASER

IPG was founded in 1991 in Russia by physicist Valentin P. Gapontsev, PhD, a pioneer in the field of fibre lasers.

The company went public in 2006 and is listed on the NASDAQ Global Select Market under the ticker IPGP.

In 1992, the company began to focus on the development of **high-power lasers** and **fibre amplifiers**, and established its global headquarters in the USA in 1998.

In 2000, IPG invested in new high-capacity production facilities in the USA to manufacture its own diode pumps, a key component in its fibre lasers and amplifiers.

IPG is highly vertically integrated, producing all the critical components for its lasers and amplifiers. **Fibre optic** technology has had a revolutionary impact on laser manufacturing.

The simplicity and elegance of the fibre laser is reflected in its **efficiency**, compactness, sturdiness and low cost, all of which has led to its tremendous success in the market.

TECHNOLOGY

HARDWARE SOLUTIONS

HARDWARE SOLUTIONS

AUTOMATIC NOZZLE REPLACEMENT

Automatic nozzle replacement is an option whereby the machine automatically changes the cutting head nozzle with no need for operator involvemen

CAMERA

A position camera that enables remote monitoring and viewing of machine operation.

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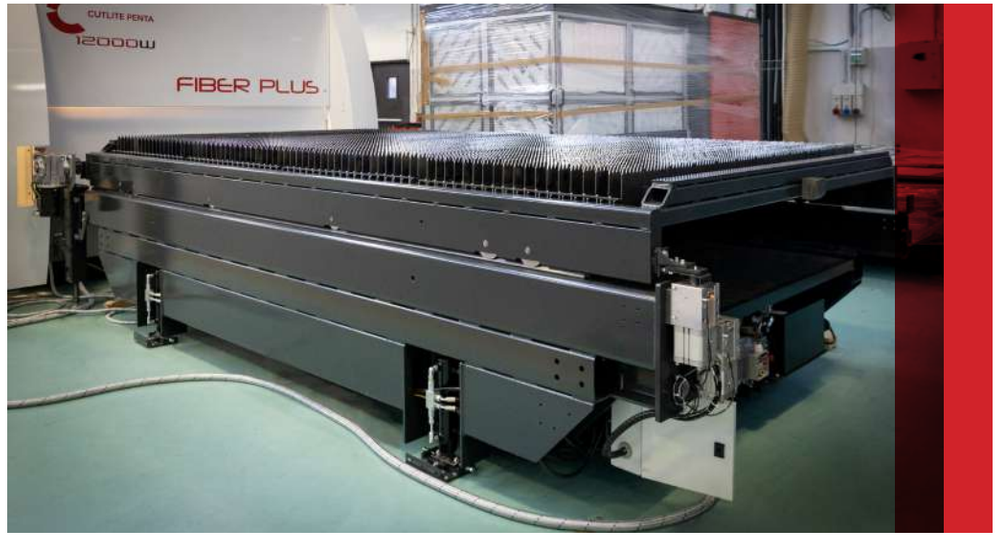
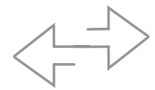


PALLET LIFT CHANGEOVER

This optional extra allows optimisation of processing times by reducing loading and unloading times of the sheet metal .



TWO-LEVEL WORKTABLE CHANGEOVER

Two-level worktable changeover allows the table to be changed in approximately 15 seconds, almost completely masking loading and unloading times – the fiber plus system is the fastest on the market today.

HARDWARE SOLUTIONS

AUTOMATION

his option allows optimisation of processing times, almost entirely masking loading and unloading times.

MANUAL EXTRACTION TABLE

Manual extraction bench for loading/unloading materials to be processed.

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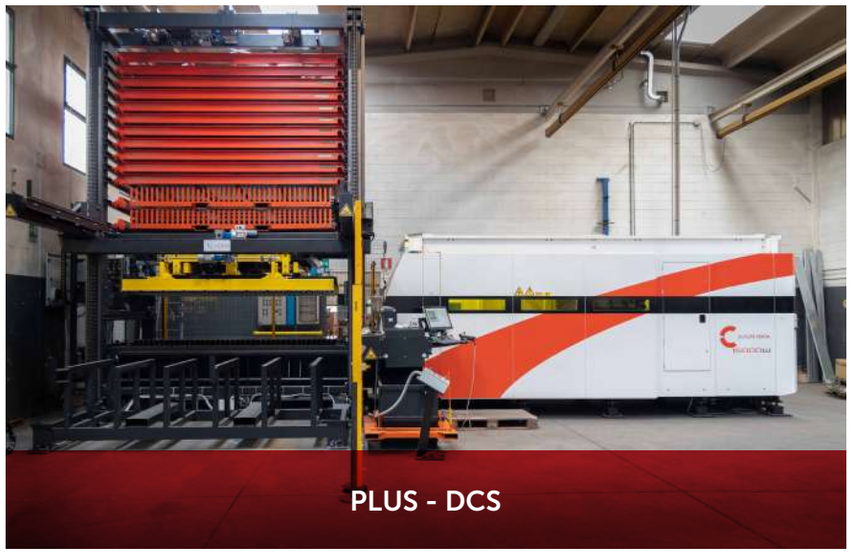
Steel sample 5 mm

PLUS 20 kW 15000x3000mm

PLUS 30 kW 15000x2000mm



PLUS - DCS

LME - DCS

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Each Cutlite Penta system is not only made of steel and digital circuits.

Each system is the brainchild of its designer, who determines the configuration of the machine; it is the vision of the computer scientist who creates intuitive commands and controls; it is the experience of the technician who selects quality materials. Each nut, bolt and bracket embodies the hard work and sweat of those who fashion our machines from bare lumps of metal every day. The ink in the stamp of a sale embodies the sales personnel, who have a profound understanding of customer needs.

Each machine is the beating heart of a company, it represents the knowledge of those who dedicate their daily efforts to achieving a goal. Our passion is to be found in each machine.

And we want to share this with you.

Delio Patrizio Mugnaioni

CEO Cutlite Penta