



# CY2D

GENERAL CATALOGUE

ENG

 **CYLASER®**



**IT ALL  
STARTED  
AS A  
CHALLENGE...**

**...IT HAS BECOME  
THE LEADING  
TECHNOLOGY  
FOR SHEET METAL  
CUTTING**



Cy-Laser was founded from the long entrepreneurial experience of **Livio Campana**, who has always shown interest towards innovations and has permanently changed the industrial applications market for sheet metal cutting thanks to a **revolutionary intuition**.

In 2005, Livio returns from a business trip with a fiber optic generator and decides to conduct a few tests by studying and configuring specifically dedicated optics, getting them produced being convinced that this technology would also cut. At the same time, Livio studies those cutting heads available in the market at the time and through a reverse engineering process, he designs and produces the first fiber optic cutting head as well as the machine. The result of cutting the sheet metal has been surprisingly achieved!

**This is how the first ever fiber optic laser machine for sheet metal cutting was conceived.**

This is how Cy-Laser was founded.

The Cy-Laser proprietary EVO III and EVO V HP (for high powers) cutting heads are now the most advanced in fiber laser industry, entirely designed and built by the company being the result of many years of experience in this specific process.

After hundreds of installations and several years of hard work, **Martina and Federico Campana**, Livio's sons, took over the company leading it very well thanks to a lean and dynamic management and a high level of know-how; today Cy-Laser continues to confirm its market leadership on a worldwide scale through the manufacturing and supply of fiber optic laser cutting as well as welding systems. The secret of this success has been the choice to offer customized automation and piece handling solutions as well as to rely on local suppliers and partners, focusing strongly on the **"Made in Italy"** concept.

Moreover, Cy-Laser stands out for its continuous R&D of new technologies, for the deep attention to its territory and social responsibility projects, as well as for the loyal and strong relationship with its employees, who, by operating in a calm and respectful environment, with their professionalism, competence and dedication, constitute a winning team and represent the most precious value for the company both inside and outside it.





**THE LIGHT  
OF THE FUTURE  
TRAVELS  
VIA FIBER.**

**THIS,  
WE HAVE  
ALWAYS  
KNOWN.**

**100%  
ITALIAN  
PRODUCT**



A territory with a consolidated technological background and the inventiveness of the Campana family are the ingredients for Cy-Laser's foundation, **the first company to apply fiber laser technology to the sheet metal cutting field in 2005**, thus gaining a substantial technological edge over the competition. It is a lean and dynamic company that provides customized automated cutting, welding and bending systems and has a widespread sales network around the world.

**Cy-Laser is present all over the world** with various branches and offices and a large network of trusted distributors and agents. Its **headquarters** are located in **Schio, close to the city of Vicenza**, in the North-East of Italy, while in the North-West of the country the company has a **dedicated office** located **close to Milan**.

In Italy, Cy-Laser is well represented through a trusted sales network, while abroad, after an initial cooperation with a strong local distributor and a significant increasing

demand, Cy-Laser decided to invest in the American market, specifically **in the U.S.**, with the opening of a **branch office located in Sterling Heights (Michigan)**.

In **North America**, Cy-Laser has captured quickly the interest of some of the most laser users in the country, selling successfully machines specifically designed to match the needs of very important companies in the country.

Cy-Laser then expanded towards **Brazil**, thus entering the **South American market**, shortly positioning itself successfully both in the mechanical and agricultural sectors, thanks to the precious and professional cooperation of a local agent who well understood the great quality of highly technological and entirely "Made in Italy" fiber optic laser cutting systems.

Cy-Laser is present also in **India** with a **branch office** located in Nashik, which together with Pune and Mumbai constitutes the industrial hub of the country.



# CYLASER SYSTEMS

**Cy-Laser invests constantly in R&D** having the aim to offer its customers, even the most demanding ones customized and state-of-the-art fiber laser cutting systems able to optimize and increase efficiency in the production processes as well as to satisfy the need of cost reduction.

With the experience of hundreds of installations and an ever-increasing demand for reliable, fast and performing fiber laser cutting systems, Cy-Laser has become a complete and exceptional partner, able to offer not only a product but above all the service. Thanks to its skilled and regularly trained technicians, developing new technologies to offer to the market has become for the company a real need and a recognized point of strength.

Moreover, the know-how level deriving from the undisputed pioneer role of fiber optic laser technology, allows the company to approach the market with high quality products capable of beating and putting a strain on the competition.



# WHY CYLASER

- » Cy-Laser does not only aim to sell its products but wants to be an exceptional technological partner to its customers by offering customized solutions based on accurate analysis of their real needs.
- » It was Cy-Laser, and precisely its founder Mr. Livio Campana, who came to the revolutionary discovery of fiber laser technology for sheet metal cutting in 2005.
- » Thanks to the know-how level deriving from the undisputed pioneer role of fiber optic laser technology, the long years of experience and the hundreds of installations, its fiber laser cutting systems guarantee highly efficient and performing working processes.

## OUR APPLICATION FIELDS



### CY2D

2D Cutting Systems



### CYTUBE

Tube Cutting Systems



### CYBEND

Bending Systems



### CYWELD

Custom Welding Applications



### CY3D

3D Laser System



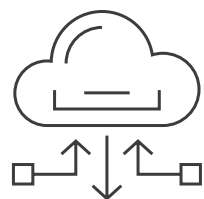
### CYCP

Customized Processes





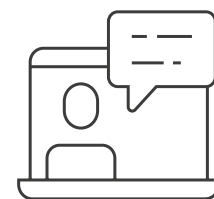
# THE CYLASER CYBER-PHYSICAL SYSTEM



It can be integrated seamlessly with other machinery of the production cycle thanks to the **Cy-Laser Open Source software** which is able to manage any existing automation system.



It automatically fits into a company's logistic system.



Remote and self-diagnosis software applications allow **remote control and assistance**.

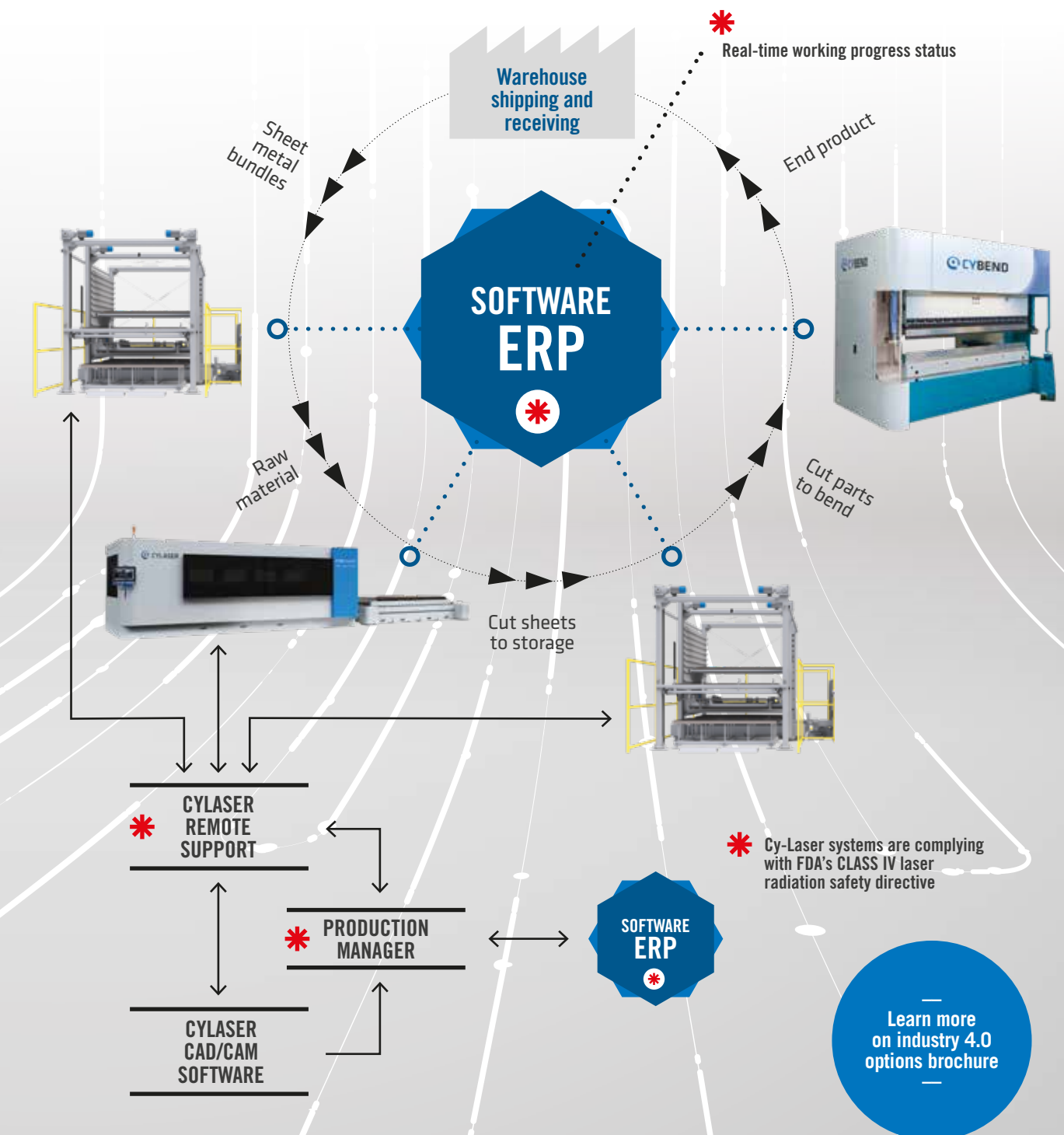
# CYLASER'S 4.0 INNOVATION

**FLEXIBLE** > Small production volume at the same cost per part of the large-scale

**RAPIDITY** > From the prototype development to the production

**PRODUCTIVITY** > Thanks to the fast settings, the processing faults and machine-down events reduction

**PRODUCTION QUALITY** > Discarded parts reduction thanks to the real time process monitoring through sensors







# MAIN FEATURES OF CY2D FIBER LASER CUTTING SYSTEMS

- The Cy-Laser fiber laser cutting systems meet the following characteristics:
- » Construction philosophy with the use of Off-The-Shelf (OTS) components to avoid forced customer retention
  - » Proprietary cutting head, designed and built by Cy-Laser, the most advanced in fiber laser industry being the result of a long experience in this specific process
  - » Compatible with the main CAD-CAM software packages available on the market
  - » System designed specifically to take advantage of the fiber laser technology
  - » Wide range of configurations, to meet the production needs of any customer
  - » Possibility to choose, for almost all of models, the “left” or “right” feeding version to optimize material flow
  - » Load-Unload automation set-up available for most systems

In 2019, to meet specific customer needs, Cy-Laser conceived the new **Gantry structure** systems, in addition to the previous ones with **Airplane structure**.





The systems with airplane design are divided into 4 macro-groups

### 1. HIGH LINE (HL)

Structure also identified as LONG (longitudinal) version as its loading station is on the short side of the system body.

Either left or right shuttle table exit is available.

Available formats: 5'x10', 6'x13', 6'x20' and 8'x20'



△ CY2D HL3015 fiber laser cutting system



△ HL fiber laser cutting system with open doors total access to working area

# AIRPLANE DESIGN

The airplane design meets specific construction features that make it **stable** even during the inertial masses movement and guarantees **very high precision** level. The structure is sized for the maximum power installable and the maximum thicknesses that can be cut, so it is possible to upgrade the system with a more powerful generator, at any time, in matter of hours. The **motion parts** are positioned **at the top** thus being constantly protected from the heat, dust and cutting scraps generated during production processes, which drop in the downdraft table. Thanks to **bilateral sliding doors** it is possible to access with extreme ease the working area. Moreover, the accurate design of all details has led to a system that requires less installation area compared to systems of previous concepts.

The system is easy to transport, quick to install and ready for use just a few days after delivery.

## Main features

- » Absolute precision, especially in large formats, and mechanical stability over time
- » Protection of motion parts from the heat, dust and cutting scraps thanks to their positioning in the upper part of the system
- » Ideal for medium/large thicknesses processing and large cutting areas
- » Fully bilateral access to the cutting area thanks to the complete opening of door



## 2. SIDE (S)

Structure also identified as SIDE LOADING version as its loading station is on the long side of the system body.

Smaller footprint suitable for those who do not have large spaces to dedicate to the laser system.

Available formats: 5'x10', 6'x13' and 6'x20'



^ CY2D S3015 fiber laser cutting system

## 3. XLONG

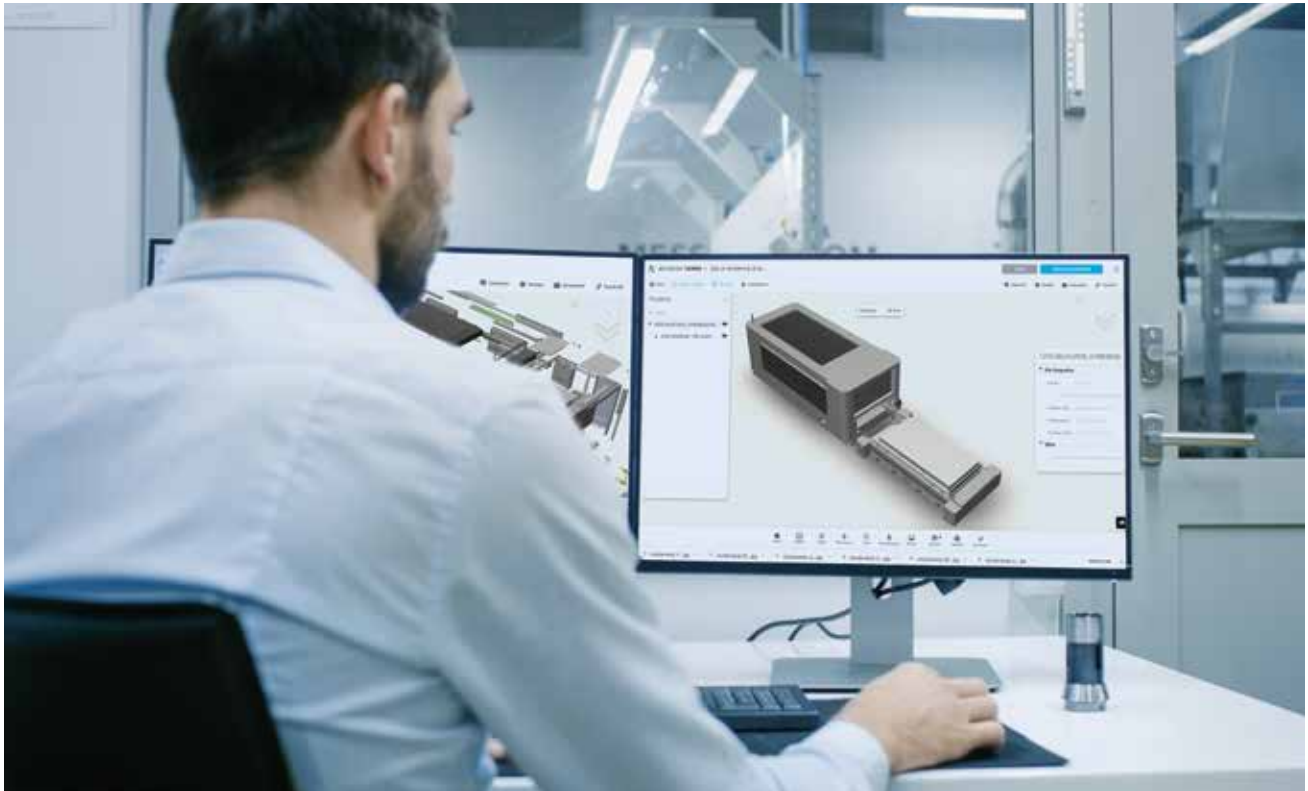
Systems for large formats with airplane design.

Available formats: 10'x26' and 10'x30'



^ CY2D HL9030 fiber laser cutting system

## 4. CUSTOM



From the simplest accessory to the most complex and rigorous processing system, Cy-Laser's philosophy has always been that to pay major attention to its customer's needs by offering them the opportunity to realize together **customized solutions** in order **to satisfy their production objectives**. It was from positive and enlightening experiences of the past that specific table sizes were conceived, such as 10'x13' or 10'x20'.

Find out  
more details  
in our data sheets  
or in our website





# GANTRY DESIGN

An electro-welded steel structure with an extremely modern design that meets specific construction features that makes it very **performing** and **precise** thanks to the lowered centre of gravity. Because of the accurate design and the very high attention to every detail, the required installation area is much smaller than the systems previously conceived. The **access** to the working area is **limited to the front for the 5'x10' system**; however, it is possible to install a mobile roller shutter (option) to improve the accessibility. For the 6'x13'and 6'x20' systems a lateral access is provided to facilitate ordinary operations.

The system is easy to transport, quick to install and ready for use just a few days after delivery.

## Main features:

- » Dynamic
- » Ideal for cutting thin sheets
- » Optimized for mass production



## Systems with Gantry structure designed to meet customer needs

### 1. LM

System equipped with linear motors that makes it the fastest of the entire range thanks to the 4g acceleration. Specifically designed for medium and light gauges mass production.

Available formats: 5'x10' 6'x13', 6'x20'



CY2D LM3015  
fiber laser  
cutting system

### 2. RP

Very performing and extremely reliable system equipped with high precision rack and pinion. Specifically designed for medium/thin thicknesses.

Available formats: 5'x10' 6'x13', 6'x20'



CY2D RP3015  
fiber laser  
cutting system

### 3. EL

Precise and reliable system equipped with high precision rack and pinion, suitable for those are approaching fiber laser technology for the first time.

Available format: 5'x10'



CY2D EL3015  
fiber laser  
cutting system



# CYLASER CUTTING HEAD

## HOW THE CYLASER CUTTING HEAD WAS CONCEIVED

Thanks to Cy-Laser and specifically to the company founder Mr. Livio Campana, it was possible to discover and introduce for the first time ever the fiber laser technology for sheet metal cutting. It's **2005** when Mr. Campana, at the time an active entrepreneur in the special welding machine sector, produces his **first fiber laser cutting head** for 1070 nm wavelengths obtaining surprising results. Thanks to this revolutionary discovery, Cy-Laser becomes pioneer in the market of laser cutting systems and, in a very short time, its name is on everyone's lips. Being the first to find out this extraordinary technology has represented a huge added value for the company which, over the years, has never stopped and has increased and refined its know-how by placing on the market a state-of-the-art and always in step with the times product. Therefore, the Cy-Laser cutting head has gradually evolved and keeps on evolving today, thanks also to the support of customers who represent the most important source of inspiration for Cy-Laser.

## MAIN FEATURES OF CYLASER EVO III AND EVO V HP CUTTING HEADS

- » Optics configuration designed as per customer specifications
- » Maximum reliability guaranteed by the protection screens even during maintenance
- » Magnetic anti-collision system to minimize machine downtime
- » Integrated process monitor to continuously keep track of production
- » CYSP Servo-piercing for fast and clean piercing of very thick plates
- » Automatic nozzle cleaning and height control calibration
- » Designed to use compressed air for cutting as an alternative to technical gases
- » Flycut function for high-speed cutting of grids
- » Vortex cutting process for a better quality and a reduced gas consumption in stainless steel cutting
- » Marking, engraving and film-protected material cutting management

## EXCLUSIVELY FOR EVO V HP

- » Cutting process management for **8kW and above**





# CYLASER CUTTING HEAD EVOLUTION

The first Cy-Laser cutting head had the manual focus adjustment and was called “double head” as it was equipped with a double focal length to take advantage of the limited powers generators of that time.

The second Cy-Laser cutting head, known as **EVO I**, was designed in 2009 with a single focal length and with automatic focus adjustment. In the double head the lens movements were all done manually, whereas with EVO I all motion parts were removed and the focal length became thus a single sealed block whose movements began to be controlled from the outside.

This represented a great step forward for Cy-Laser and for the entire market. Making the **head hermetic** was very helpful for the production process because this meant eliminating the occurrence of technical errors and the risk of incorporating dust or residues but, above all, it ensured lenses a longer life time.

With **EVO I** a **collision check system** was also introduced to preserve the head integrity. Unlike the heads on the market at that time as well as the current ones, equipped with a breaking organ, this system provided the magnetic release of the torch and the immediate lock of the system to avoid the possibility to damage the head in case of a collision. To date, we are still the only ones to offer this very useful solution and this represents one of the main added values that distinguishes us in the entire market.



Example of collision check system function



CYLASER SYSTEMS ARE COMPLYING WITH  
FDA'S CLASS IV LASER RADIATION SAFETY DIRECTIVE

# CYLASER CUTTING HEAD EVOLUTION

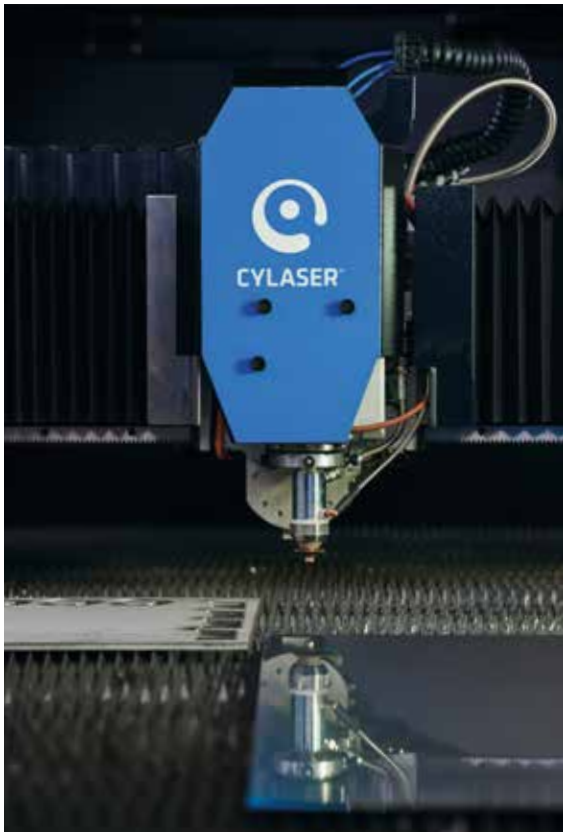
## The present and the future

Thanks to the very high know-how level, the continuous R&D and testing of Cy-Laser team, EVO I was followed by **EVO II** and subsequently by what are now considered the market's most advanced cutting heads: **EVO III** and **EVO V HP**.

It was with **EVO III**, in 2018, that Cy-Laser reached its peak by designing and manufacturing a **much faster** cutting head thanks to a **lighter and solid structure** able of improving all processes and taking advantage of generators laser power increase.

Thanks to EVO III, it was possible to introduce two very important innovations: the bevel cut and the galvanometric marking head.

With **EVO V HP**, the new cutting head for high powers, Cy-Laser aims to improve the cutting process with **high power generators** (> 8kW), even for welding.





## STANDARD ACCESSORIES



3/8" stainless steel cutting comparison between 4kW fiber laser with and without Vortex feature

### VORTEX

**Vortex** (4kW and over) is the process feature that makes it possible to obtain a **higher cutting quality** on 3/8" to 1" stainless steel and to fully take advantage of the fiber laser potentials through the beam emission frequency modulation and in-kerf gas flow management.

### LASER SOURCE

The choice of the laser source is not bound to a close cooperation with a single manufacturer, but it is the result of analysis on customer's production and processing needs with the aim of offering the most suitable solution.



## OPTIONS



Cutting comparison on 3/8" stainless steel (left) and 5/8" carbon steel (right) with and without Vega feature

### VEGA

**Vega** is the process feature that makes it possible to obtain an **optimal finish** on stainless steel and to cut any carbon steel grade and composition. It also allows to automatically select the laser beam shape with the same optics set-up. All with just a single touch.

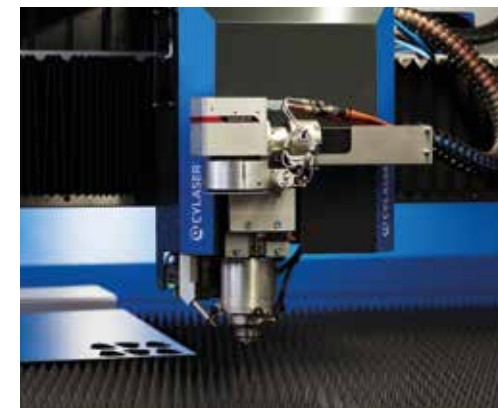
### AUTOMATIC NOZZLES CHANGER

The **automatic nozzles changer** device, available 6, 12 and 18 nozzles formats for all CY2D fiber laser cutting systems, allows the system to select automatically the correct nozzle for each process.



### CY-FAST MARK

The installation of the **CY-FAST MARK**, with **customized marking levels** and the possibility to mark film coated materials, allows a very high-speed marking execution and a 40% time saving compared to traditional machines. As part tracking has become fundamental for subcontractors, this device represents definitely an added value to offer to their customers.



### BEVEL

By **"Bevel"** cut we mean an **inclined cut** up to 45° which can be achieved thanks to an additional movement of two axes, one rotary and one linear. It is a specific cutting process that allows to cut a piece with a border not perpendicular to its top and it is usually adopted to increase the surface area of the edge for a stronger and consistent welding.



Find out more details about Industry 4.0 in our optional and accessories catalogue



# SOFTWARE CAD-CAM

# USER INTERFACE



## SIMPLE AND A USER-FRIENDLY INTERFACE

- » Easy-to-use and customizable graphic system
- » Features all the software needed for management on the machine and remotely
- » Possibility of machine side PC connection in order to speed up the changes
- » Possibility to integrate a hand-held device to control the machine from any position

## ADVANTAGES

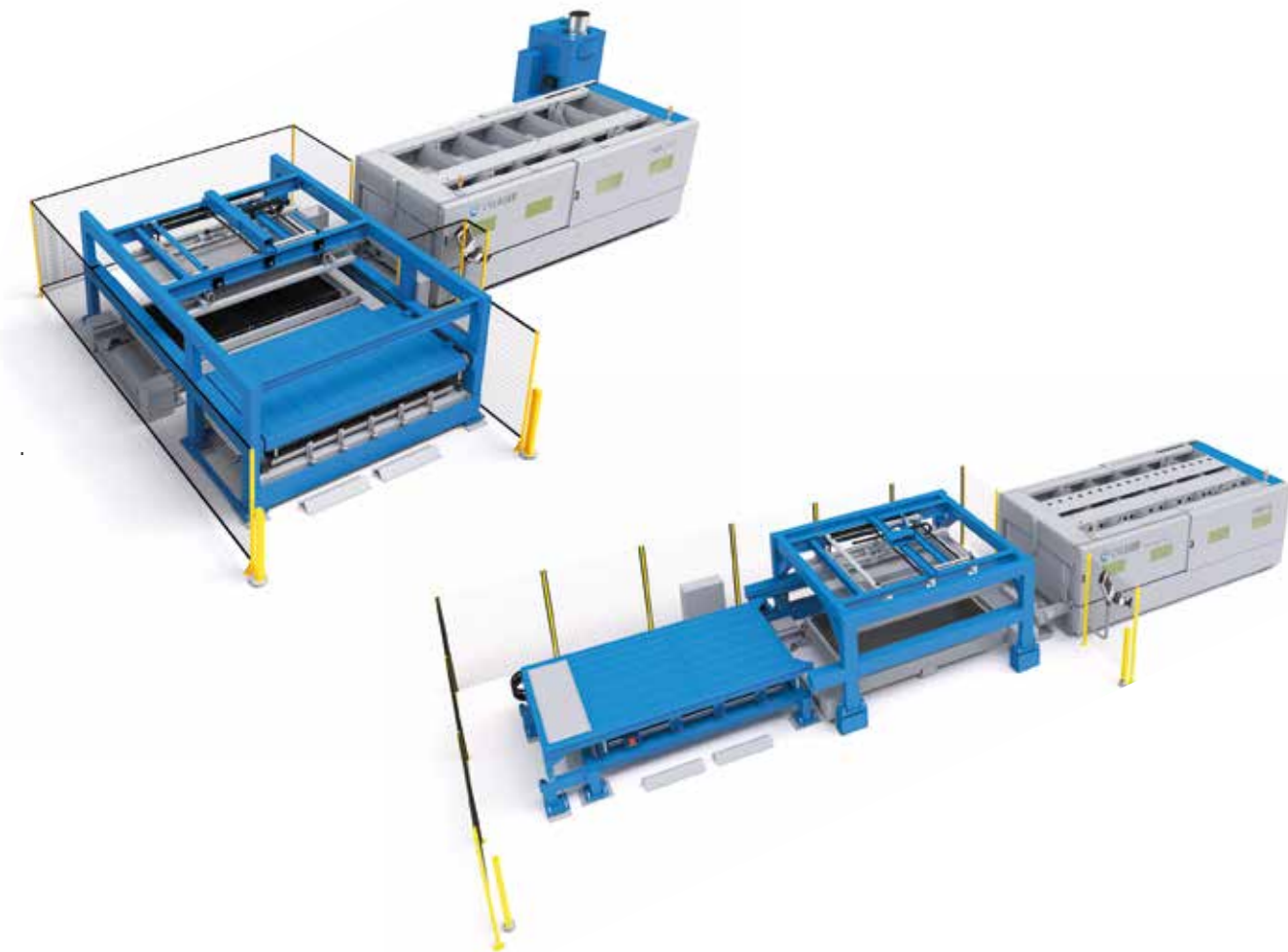
- » Certified for the main CAD-CAM software on the market for the maximum degree of integration with any existing system
- » It fits perfectly into the company network to ensure remote servicing and diagnostics
- » It allows sharing cutting technologies with management and quotation systems

# CYLASER AUTOMATION

## Automated production

Cy-Laser systems can be integrated with different types of **automation**, from the loading/unloading server to the automated storage tower for a **completely unmanned and continuous production**.

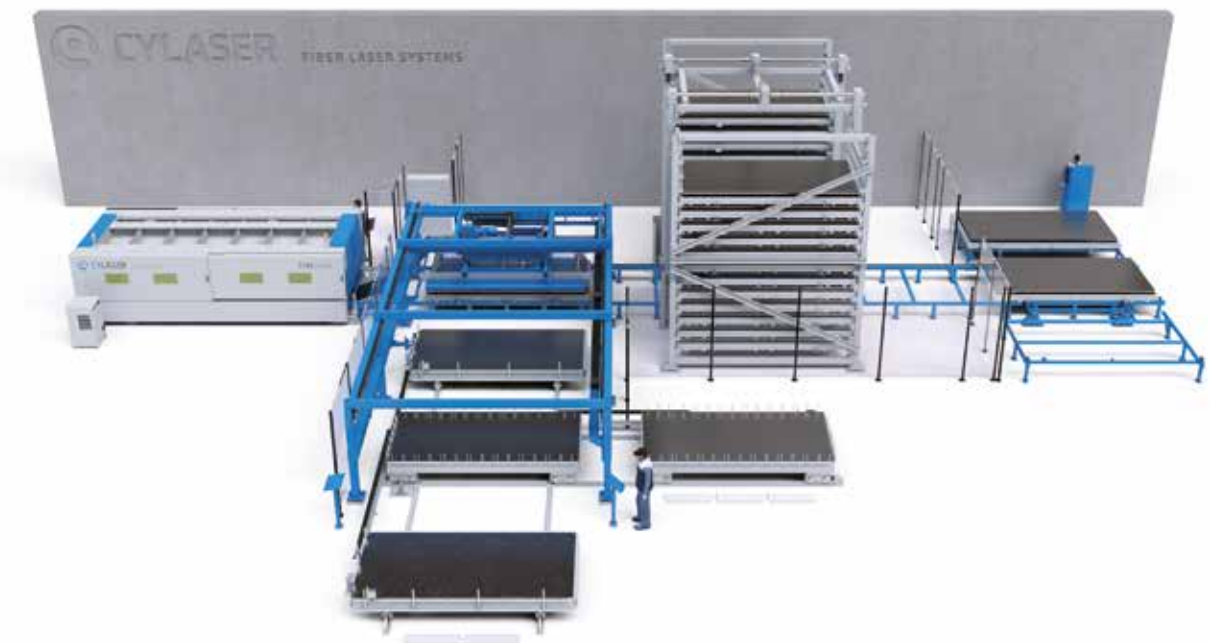
The **COMPACT SERVER** can be **SIDE** or **LONG** version depending on the load side: both automations allow to load sheet plates frontally or laterally autonomously and with the same procedure. The choice of the load depends on the site layout where the system is installed and on the working flow of the company. The **Compact Server Side** and the **Compact Server Long** work in the same way but the second one, apart from the different layout, allows to move the forks/suction cell from the pallet changer leaving it stand-alone, i.e. free from automation.



One of the features of compact server is the de-sheeting process, a combination of systems that separate the sheets and control their correct picking up.



For those companies that have the need to **stock and manage different thicknesses and materials through the automation**, the ideal solution is the **COMPACT STORE**. The **tower** can be customized either by determining the quantity of drawers based on total height of customer's facility and/or establishing which drawers are to be dedicated for loading and the unloading of the material. Based on working program, the Compact Store manages a specific drawer and through similar process of Compact Server, it manages the working of relevant sheets which will then be located in a precise position of the tower.



Cy-Laser offers the possibility to create **customized automation** systems in according to the customer needs. In the photo we show you an example of them.

Find out more details in our automation catalogue or in our website





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