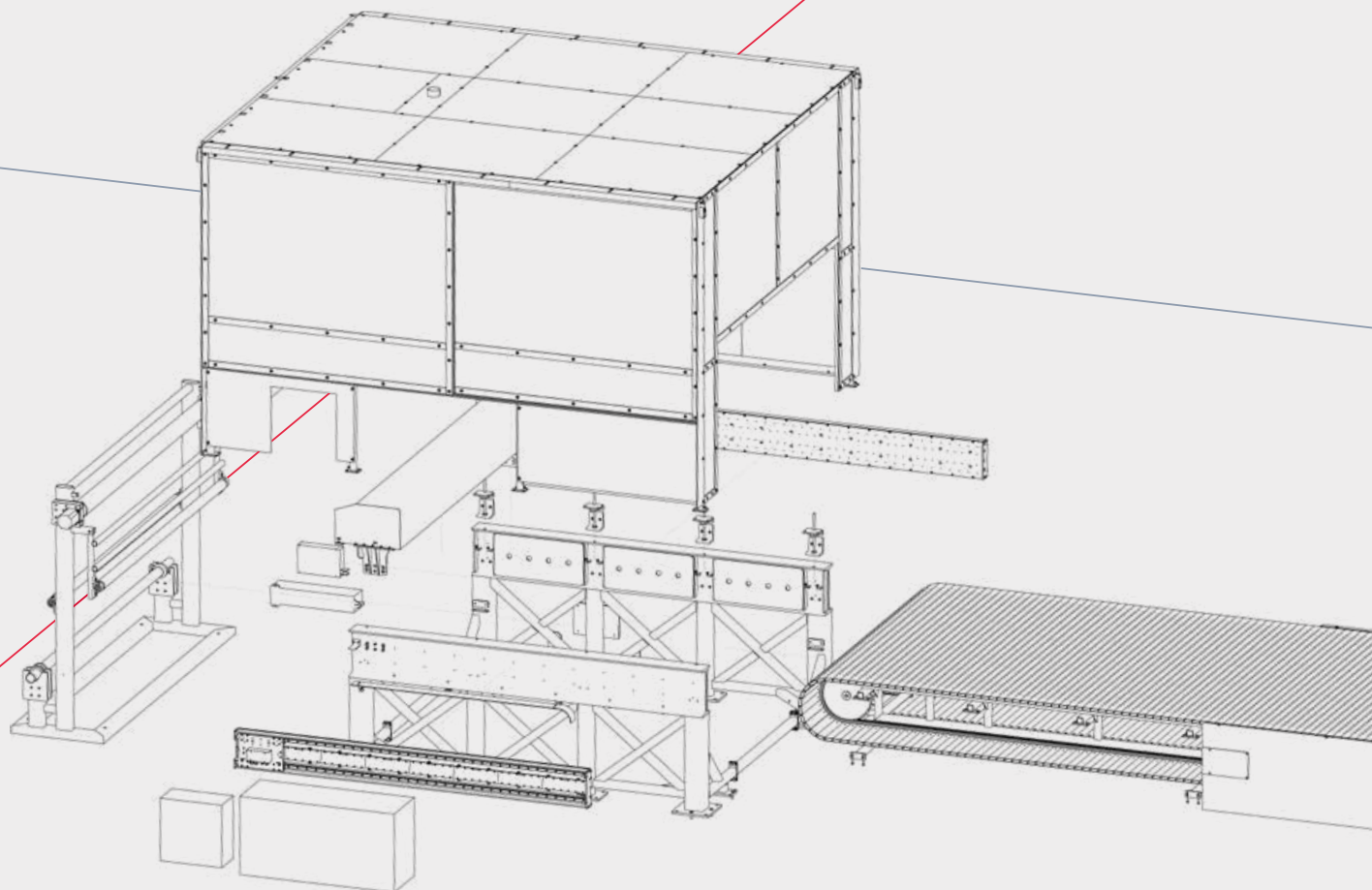


Custom made laser cutters





ENZO

WWW.LASERS.CZ

ALT systems a.s.

The first Czech manufacturer of laser cutting and engraving machines

We know that every company wants to work efficiently and without losses; that even the smallest production line deserves the biggest attention; that accuracy is above all.

That is why we specialize in **tailored production of industrial systems and the development of new technologies**. Experience shows us that **custom-made lasers** are significantly **more efficient** than universal machines. We optimize them to the specific production program and we integrate them to each production line.

Our first custom-made laser machine dates back to 1992. It was a **Shark 30 - a laser for the rubber stamps production**. As for customer's request, we developed and manufactured it in less than a year. At that time, everyone needed stamps, in the following years we produced several dozen Sharks intended for the Czech and foreign markets. Many of them are still in operation in Slovakia, Austria, Germany, Switzerland and Liechtenstein. Our machines have also travelled to far away countries such as Mexico and China.

Every laser we design is original. Just like our clients.



Sale of "Shark 30" to Trodat company. Start of production of large-area industrial lasers

1992

Development of technology and production of machines for textile parts of Mercedes Benz cars

2010

New software compatible with Industry 4.0 – deployment and integration into production

2019

New control system for extremely precise and fast lasers – increased efficiency and accuracy

2023

Development of laser microperforation for the company Příhoda s.r.o., export to the whole world

2003

Development and production of lasers for cutting carbon-fiber parts for Škoda, VW and Seat

2017

Automation of cut-outs collection at T.E.G. company for the automotive industry

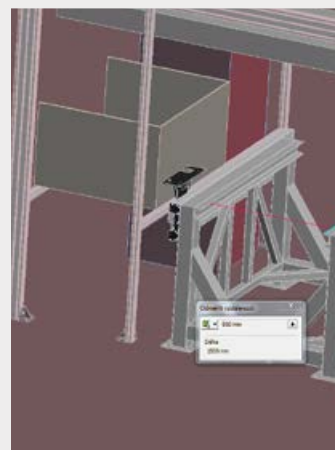
2022

Modular system for single-purpose machines

2025



Solutions for those who know what they want.



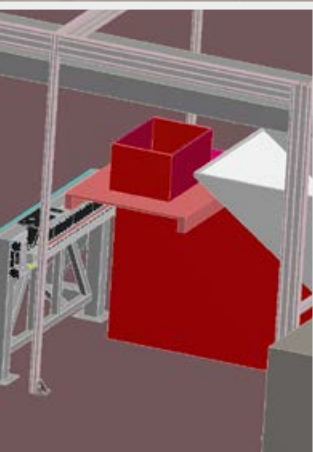
You know you want to save money. You know you want to make production more efficient, reduce material losses. You need to move human resources elsewhere. You know what you want. You just don't know how to manage that yet.

The solution is a custom-made laser. You only pay for what you actually use. You produce faster, more accurately and cheaper than with a mass production laser machine.

The machines we supply only take up as much space as they really need. They save material. In demanding factories, our lasers work 24 hours a day, 7 days a week.

They are so reliable that they are also used in the automotive and aerospace industries.

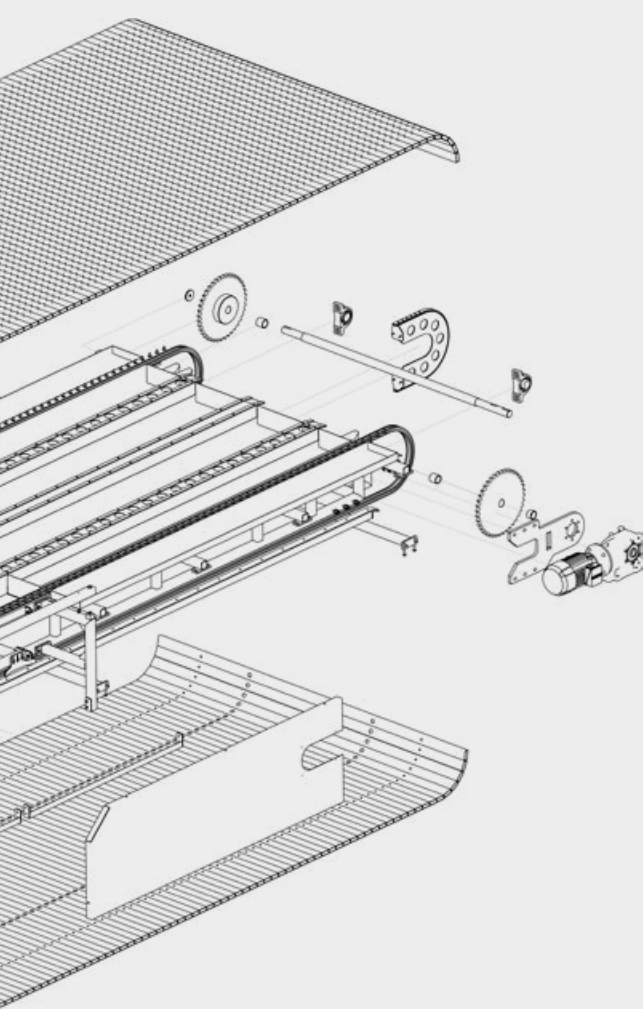
They can handle most non-metallic materials, such as plastics, wood, paper, textiles, aramid, etc. We integrate our lasers into your production line. They can be tailored to all needs. Whether you are a small company or a large car manufacturer. Custom lasers simply **save time, material and money.**



Why choose a custom-made laser cutter from A L T systems?

- * it is the best solution to your production problem
- * it was thoroughly developed and tested
- * physical dimensions, machine and software parameters are tailored according to your needs and possibilities
- * it will be integrated into the production line and into the entire production process
- * in case of technical problems we are on hand
- * when you introduce new products, the laser cutter will be adapted to it
- * spare parts and fast service are at your disposal
- * in our application center we can support you with your production

What a custom laser consists of



Laser source

Synrad, Iradion | USA

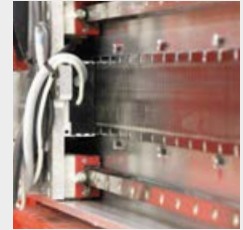
Synrad (metal tube) and Iradion (ceramic tube) laser sources – delivering high power, reliability, and long lifetime for industrial applications.



Linear motors

Tecnotion | The Netherlands

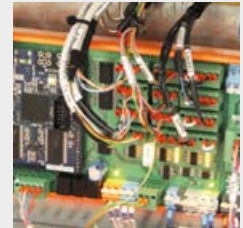
Linear motors ensure the highest dynamics, accuracy and reliability. No transmission elements. No backlashes. No wear parts.



Electronics

Hardware developed by ALT

Special control system for operation of laser cutter. Variable according to each application. It provides automation and communication with the production line.



Software

Program developed by ALT

Special software for operation of laser cutter. Variable according to the application and abilities of the operators.



Metal frame

Unique demountable construction

The frame is designed for the specific purpose. Physical properties are verified on a 3D model. Just 80 cm access to the installation site is enough.



Workspace

Dimensions and materials for the intended purpose

Static table, exchangeable tables or material conveyors are always adapted to the maximum quality and cleanness of the cutouts.



Construction variants according to use

For board materials

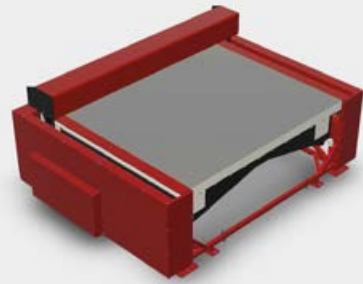
Easy material loading.

The table is accessible from all sides. Variable suction system according to the material to be cut.

Special raster plates eliminate reflections.



Dimensions	as needed
Power	optimal for the given material
Materials	plexiglass, wood, cardboard, insulation materials, etc.



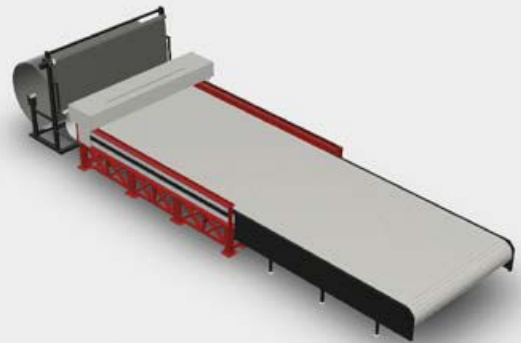
For roll materials

Automatic unwinding.

Variable collection of cutouts, possibility of robotization. One button control. Optional full cover.



Dimensions	as needed
Power	optimal for the given material
Materials	textiles, paper, carpets, insulation materials, etc.



Single-purpose

The fastest and most accurate for the specific task. All parameters are fully optimized.

Full automation.



Dimensions	as needed
Power	optimal for the given material
Materials	all suitable for cutting with CO2 laser



Selected Projects



Přihoda | Hlinsko (CZ), Mexico, China

Technical textiles for conditioned air ducting systems

We developed equipment for precise perforation and microperforation of textiles. Thanks to the speed and overall efficiency of our machines, the company Přihoda s.r.o. obtained contracts for the equipment of factories, department stores, sports grounds and Olympic villages around the world.



T.E.G. | Reichenbach, Germany

Aramid fabric and technical textiles

We developed the laser cutting technology of a special aramid fabric. It was quite hard to match the required accuracy of the cutout in tenths of a millimeter from a strongly deformed semi-finished product. The solution was to compensate the shape of the cutout according to the curvature of colored threads woven into the material. The icing on the cake is the automatic collection of cutouts: the operator only needs to replace the material roll when all is cut. The company now uses 3 of our machines to produce millions of safety elements a year for many car brands.



Webasto | Liberec (CZ)

Technical textiles for car roof systems

A very interesting project of laser integration into a production line in the automotive industry. Maximum reliability, full automation, diagnostics, quality control of the semi-finished product before cutting. The dimensions of the machine are tailored to the limited available space. The cut quality and cleanness must meet the high standards of the most luxurious Mercedes classes.



ECE Group | Liberec (CZ)

Textile filter media

This company manufactures filters from hard-to-cut technical textiles. The problem here was the lack of staff and the high purchase and maintenance cost of cutting tools. The equipment we have designed and manufactured can replace up to 10 workers and needs no tool.



Carrier | Beroun (CZ)

Thermal and acoustic insulations

This multinational company manufactures refrigeration and air conditioning units. For thermal and acoustic insulation they use a cotton-like material, provided with a layer of glue and a protective foil. The mechanical cut of this material is practically impossible, while it is a breeze for a properly designed laser. It works 24 hours a day, 7 days a week. The operation of a large factory depends on the reliability of our laser. The machine has a working area of 3x2m, fully covered, with automatic feeding of material from the roll. The finished workpieces are then moved on the conveyor to the collection area.



Dräger | Chomutov (CZ)

Kevlar materials for the production of protective equipment

The previous laser from another manufacturer did not handle the required quality and cut purity of special, extremely strong and heat-resistant materials. The aim of the project was to solve the necessary technology without negative impacts on the environment of the surrounding workplaces.



The path to a custom laser

1

Tell us **what, from what** and **how fast** you want to produce.



2

Draft of a suitable **solution**.



3

Calculation of **machine price** and manufacturing costs.



4

Samples making. Speed and quality of production are tested.



5

You compare the quality of our samples with the competition.



6

Laser cutter assembly and put into operation.



7

Training of the machine operators.



8

You start production.



Your problems will be solved by us

You have material that **cannot be cut in the traditional way**, or **traditional cutting is problematic**. Cutting is slow, inaccurate, demanding on tools or labor. You already use a laser cutter, but **you need faster**, more accurate, or cleaner cuts. You don't have enough people, you need to automate the production process.

The current machine does not suit you.

In our **application center** initially we **will test** whether the material can be cut with a laser. We will find out in what quality and how fast. We also **assess** possible **risks** and **impacts on the environment**.

For environmentally problematic materials, we find out what is the most suitable method of filtration and waste management. **We design the construction** of the machine with regard to the efficiency of the future production, to the requirements for automation and to the space availability of the production line.

First we create a 3D model, then we manufacture the machine and put it into operation. Our services include **operator training, technical support and fast in-warranty and post-warranty service**.

During the delivery time of the machine and at any other time it is possible to **use our application center for your own production**.

Application center

Want to start production, but don't have your own laser yet? Want to try out how a laser actually works? Want to know if a laser can cut your materials?

In our application center we have several lasers available, which we use for the development of new technologies and for the production of samples for customers. The power outputs of laser sources, the size of work areas and the mechanical and optical construction of reference machines are designed to enable the simulation of production conditions at the customer and to create a model of the production process according to the assignment. We can very accurately estimate the efficiency of production on a future machine and the return on investment.

Our reference machines are ready to realize your orders and ideas before you decide to buy your own laser.

Choose lasers from ALT systems because:

- * We will arrange production in our application center before the delivery of your laser.
- * After delivery of the machine, we will help you start production in your facility.
- * We train employees, advise on the selection of appropriate production processes.
- * If needed, we deliver spare parts quickly.
- * Our technicians are always available.
- * We are a Czech company with international experience.
- * We take better care of our customers than their own grandmother.

With us you are not left alone.





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