

trotec
laser. marking cutting engraving



SP Series

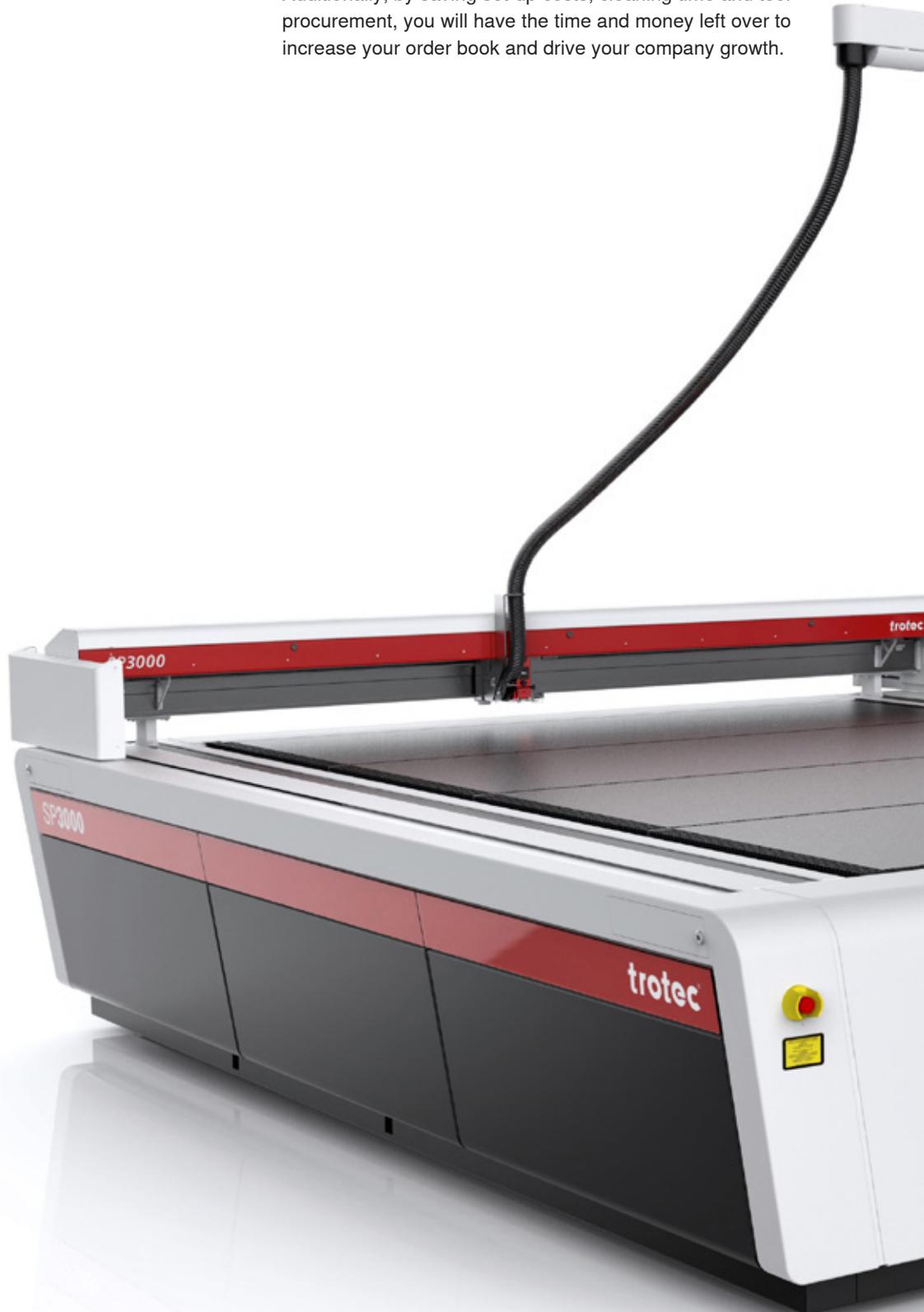
**Laser Cutting Systems
Leading Large Format**

Leading Large Format

SP series laser cutters are our complete solution for processing large format materials. Ideal cutting solutions for the production of advertising displays, architectural models, membrane keyboards, printed materials, technical textiles and furniture, to name but a few. Our laser systems are developed for 24/7 operation and let you work quickly, productively and reliably.

Whether you are looking to achieve crystal-clear edges or fine details and small radii on acrylic, sealed cut edges without fraying in textiles or the chip-free processing of various plastics, wood or wood composites - you will increase your productivity with a streamlined workflow by eliminating production stages such as flame polishing, material clamping and seaming.

Additionally, by saving set-up costs, cleaning time and tool procurement, you will have the time and money left over to increase your order book and drive your company growth.



As a market technology leader with a worldwide sales network, Trotec develops and produces first-class laser systems to make customers more profitable. This same ethos applies to the development of our SP series laser cutters for fast and precise processing of large format materials. A host of innovative features keep Trotec's SP series at the forefront of innovation, access to all four sides of the laser bed, Tandem Assist for non-stop production, optimal use of the laser bed and easy integration into your data workflow thanks to RIP and CAD compatibility.

The SP series is 100% developed and manufactured in Austria by Trotec. With sales offices around the world and customers in over 90 countries, we fully support our customers with comprehensive training on materials and technology as well as continuously developing the skillset of our service and sales teams to remain up to date with advances in technology and market trends. Exhaust systems, laser and engraving material as well as service products complete our product portfolio, we are your one-stop shop for all things laser.



One Solution For Many Industries



Adding value to printed materials through the use of laser cutting machines

Print service providers who use laser cutters stand out from the competition by implementing creative design ideas and new brand design concepts. With this universally applicable tool, the most intricate designs can be created from a wide variety of materials such as plastic or wood. Whether for high-quality outdoor signage or displays for indoor use, the contour cut of printed high-quality materials such as acrylic creates added value for advertising technicians and printers. Time savings due to the removal of production stages and reduced set-up times, and no wearing of consumables tooling parts - these are just a few of the many advantages offered by the SP laser cutters.

The advantages of a laser for acrylic processing: display and shop fitters

Compared to processing acrylic with alternative technologies such as milling or CNC machines, laser cutting is up to 88% more economical. Due to the crystal-clear edges created from cutting acrylic with the laser, flame polishing is no longer necessary and the finest details and radii are possible. Extraordinary shapes for displays make finished products more interesting and of higher quality, and so can command a higher price tag. Display manufacturers who offer contour cutting of printed materials as a service can generate additional sales, increase profit margins and stand out from the mass of suppliers with a competitive edge.

Thanks to their processing capabilities, including highly efficient and excellent cutting quality, SP lasers can process a wide variety of materials and are used successfully in many industries across the globe.



Create sealed edges without post-processing when laser cutting digitally printed textiles

Large format laser processing of printed advertising textiles such as banners and beach flags, both indoors and outdoors, is becoming increasingly important in the advertising industry. Laser processing textiles negates many of the frustrations of comparable technologies, such as material fraying, tool wear and distortion. The contactless laser process directly seals the cut edges, preventing fraying and eliminating time-consuming re-seaming of the material. The accuracy of the laser means that no overcut is necessary and the contactless process removes the need for regrinding or frequent blade changes.



Plastic processing made easy - Achieve precise cuts with minimal material wastage

There are many advantages to laser cutting technical plastics such as foils and sheet materials. The wear-free process provides consistent cutting results; while the contactless laser process means that even sensitive materials such as thin foils can be cut without distortion or tearing. The precise cutting beam allows for tight nesting and minimal material wastage, allowing you to produce more products from less raw material. Compared to conventional cutting technologies, fast and precise cutting results can be achieved with contour accuracy, especially for fine details, and cutting depth for kiss-cut applications.

Endless Application Possibilities

As highly efficient CO2 laser flatbed systems, SP series lasers excel in the most demanding cutting applications with the most diverse materials.

From acrylic and paper to plastic, wood, textiles and many other materials, the flexibility of our laser cutters enable complete flexibility for your business.



Production of point of sale displays with great precision



Print & Cut displays in unusual shapes



Exterior signage



Interior signage



Large-format engravings for wall panels

© subildot



Acrylic illuminated letters



Textile cutting with sealed edges



Finishing of technical components



Fine details are possible without post-processing



Crystal clear cut edges up to 25mm acrylic



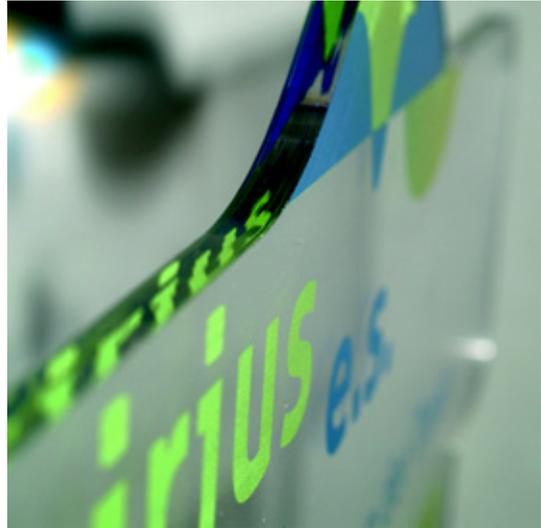
Cutting of technical textiles

© foliendesign.de

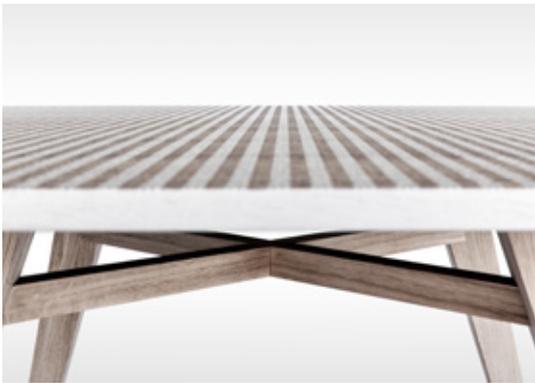


© Junkers & Müllers GmbH

Cut polyester cover for light boxes



Print & cut acrylic



© sublidot

Filigree patterns on surfaces or furniture



© Boyd & Ogier

Detailed architectural models made of a wide variety of materials



© Berger Textiles

Finishing of large advertising textile banners



© Zoran Dobric

Bespoke laser cutting for sample production

Impressive Material Diversity

With the SP series of laser machines, you can cut or engrave the widest possible range of materials, including acrylic, plastic, wood, cardboard, MDF, textiles and foils. Discover the possibilities.



	Cutting	Engraving
Plastics		
Acrylic (PMMA)	●	●
Acrylonitrile butadiene styrene copolymer (ABS)	●	●
Rubber (laser rubber)	●	●
Polyamide (PA)	●	●
Polybutylenterephthalat (PBT)	●	●
Polycarbonate (PC)	●	●
Polyethylene (PE)	●	●
Polyester (PES)	●	●
Polyethylene terephthalate (PET)	●	●
Polyimide (PI)	●	●
Polyoxymethylene (POM) e.g. Delrin®	●	●
Polypropylene (PP)	●	●
Polyphenylene sulfide (PPS)	●	●
Polystyrene (PS)	●	●
Polyurethane (PUR) foam	●	●
Foam (PVC free)	●	●
PETG (modified PET)	●	
SAN	●	
Textiles		
Polyester (PES)	●	
Felt	●	●
Velvet	●	●
Microfiber	●	
Nylon	●	
Spacer fabrics	●	
Leather	●	●
Artificial leather	●	●
natural fibre (e.g. cotton, linen)	●	●
Wool	●	
Silk	●	
Aramide	●	
Miscellaneous		
Wood	●	●
Cardboard	●	●
Paper white	●	●
Paper coloured	●	●
Food	●	●
Glass		●
Stone		●
Cork	●	●
Ceramics		●
Mirror		●

Materials you should not process with a laser

Please note that certain types of material should not be engraved or cut with a laser because of their chemical make-up. These materials contain dangerous substances that are released during processing in the form of gases and dust, jeopardising both the user and the functionality of the machine. Some of these materials include:

- Inferior leather (Chrome VI)
- Carbon fibres (carbon)
- Polyvinyl chlorides (PVC) including PVC based synthetic leather
- Polyvinyl butyral (PVB)
- Polytetrafluorethylenes (PTFE /Teflon®)
- Beryllias
- Materials containing halogens (e.g. fluorine, chlorine, bromine, iodine and astatine), epoxy or phenolic resins

Important: Be wary of materials specified as "flame retardant". This property is achieved using bromine, which is then released during processing.

Leading Large Format



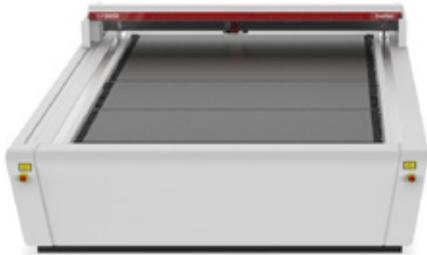
SP2000



SP1500



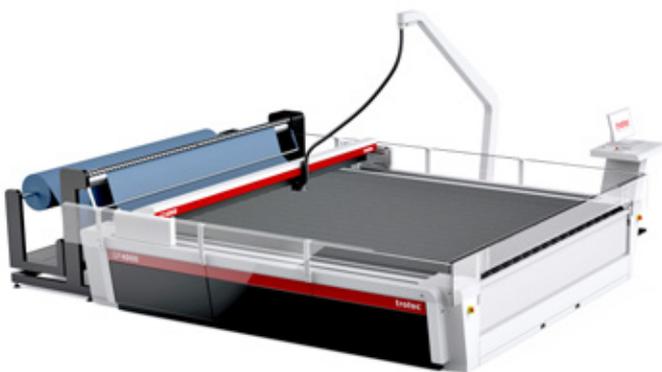
SP500



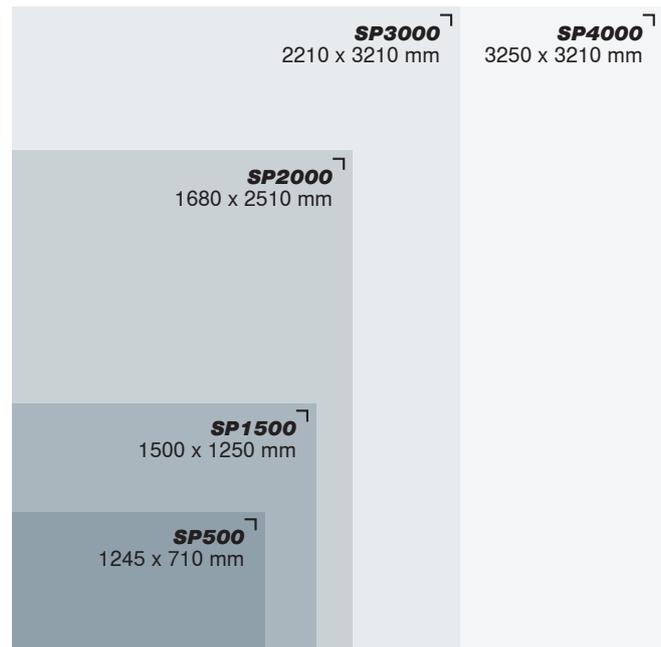
SP3000

Optimised Working Area

All platforms are optimised for standard material sheet sizes. Save time and money on cutting, process more standard blanks per table, and use the entire working area.



SP4000



Maximum productivity and user-friendliness

Trotec CO₂ laser cutters are designed for fast and precise processing of large format materials. The fastest laser cutting speeds, four-side access and Tandem Assist mode ensure maximum productivity. The entire work area can be used with no production downtime. Due to high RIP and CAD compatibility, the laser cutters seamlessly integrate into your workflow.



Supreme cutting quality for every application

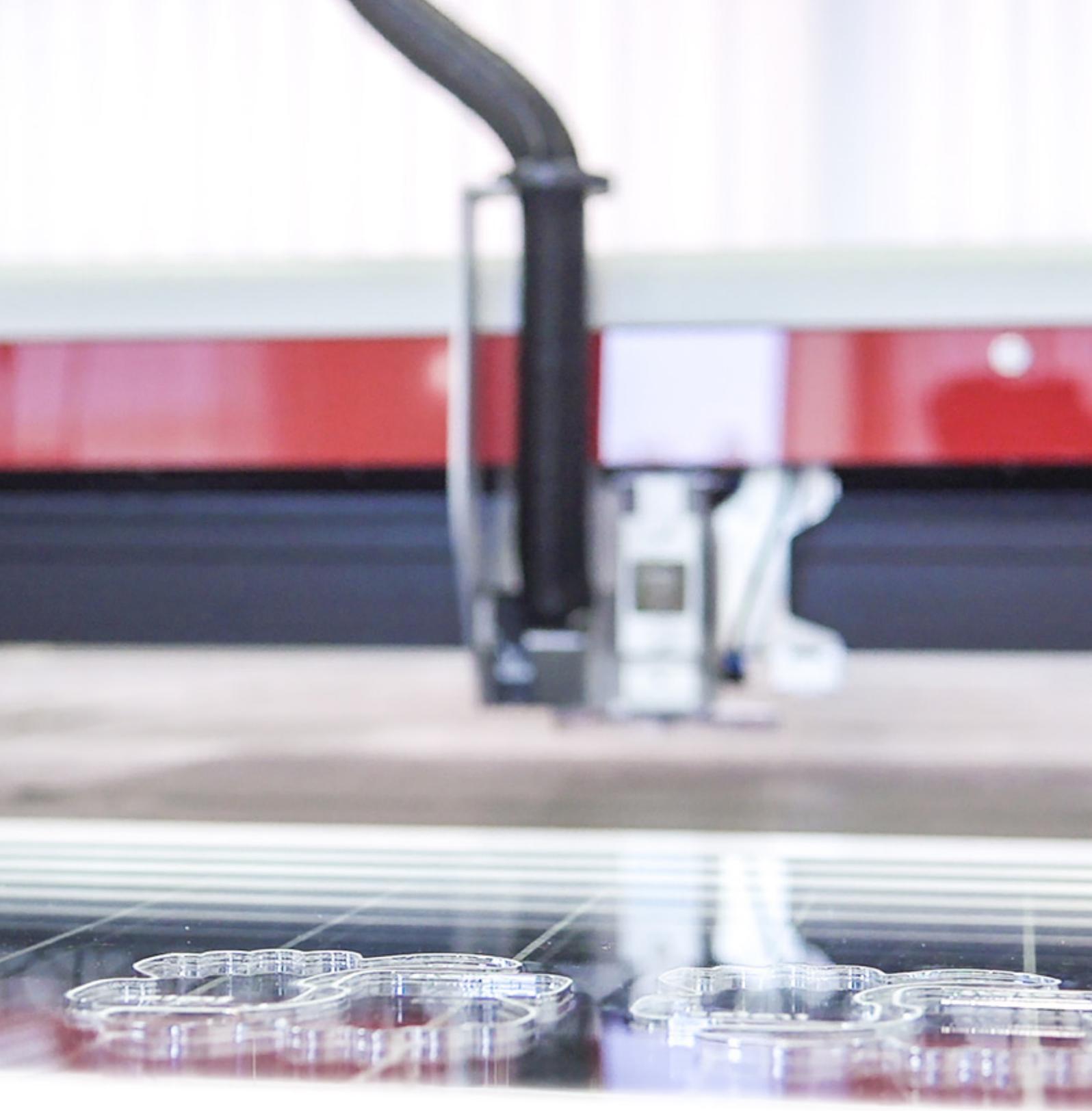
Trotec developed a unique, multifunctional table concept for the SP series laser cutters. The ideal table for every application can be selected and replaced easily and quickly. Additional functions for outstanding cutting quality include an exhaust system located directly at the working laser head, a sectioned exhaust system in the processing table, and optional digital regulation of the compressed air supply.

Reliable, low maintenance operation

The movement system, drive design, electronics and the processing head, as well as the CeramiCore® laser source provide the highest build quality and offer optimal performance. With Trotec InPack Technology™, all sensitive system components, such as lenses, mirrors or motors, are protected against dust.

The Trotec safety concept ensures optimum protection for the operator during operation of the class 2 laser device, while customised service packages guarantee minimal downtime.

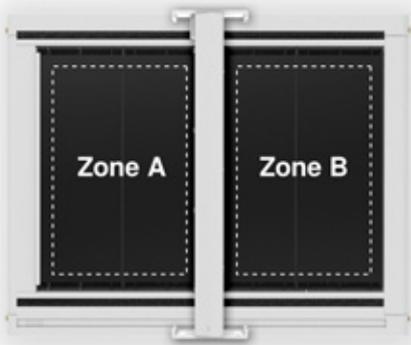




***Highest Levels of
Productivity and
User-Friendliness***

Four sides access

The working areas of the SP3000 and SP2000 laser cutters are designed for large-format materials and high-volume production, with easy access from all four sides. This allows fast and ergonomic loading and unloading, even during processing.

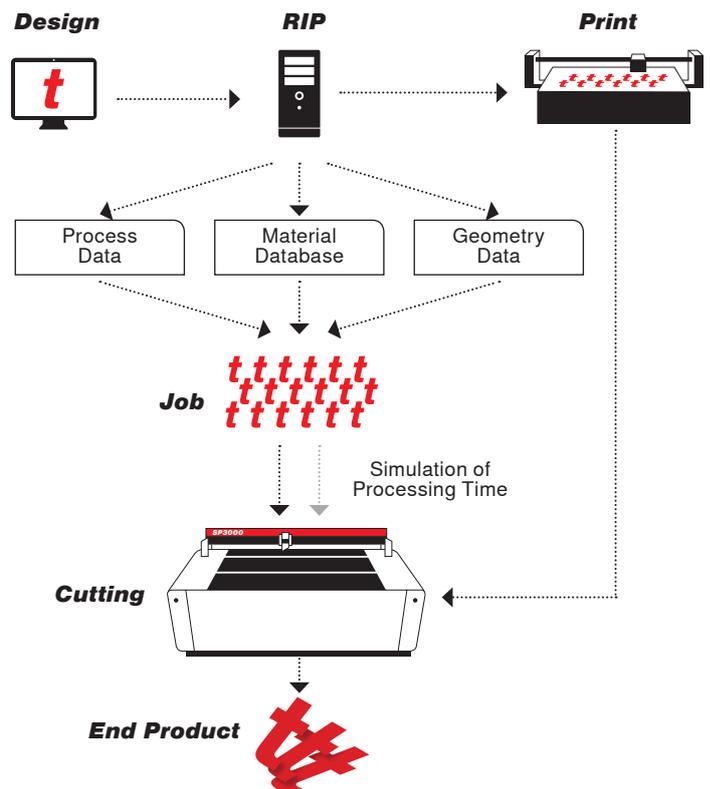


Non-stop laser cutting with Tandem Assist

Tandem Assist provides efficient and error-free support to the operator's workflow. With this JobControl® laser software function, the work area can be virtually split into two zones. While the laser cutter in zone A is processing the material, the finished parts can be removed in zone B and the work area can be reloaded. This minimises idle times and significantly increases productivity.

Workflow Integration

RIP and CAD compatibility make it possible to seamlessly integrate a Trotec laser cutter into your workflow. Thanks to the fully automated PDF and DXF interface, Trotec UniDrive, data can be sent to the laser cutter from the prepress, or work can be prepared via monitored folders, called "Hot Folders". Time-intensive preparation or parametrisation of the cutting data is not required.



Leading Large Format

SP series laser cutter

SP series laser cutting machines feature CO₂ laser sources for processing large format materials. The highly efficient laser plotters are ideal for demanding cutting applications such as plastic, acrylic, textiles, wood and other materials.

SP lasers are 100% developed and manufactured in Austria by Trotec.

Customer productivity is at the forefront of our mind when we are innovating our products. Intelligent system design makes a crucial contribution here: faster operation and better ergonomics create more efficient workflows, thus improving customer profitability. Despite the open bed design, a host of safety features make all SP series laser cutters class 2 systems. This means that no additional PPE or safety measures are required.



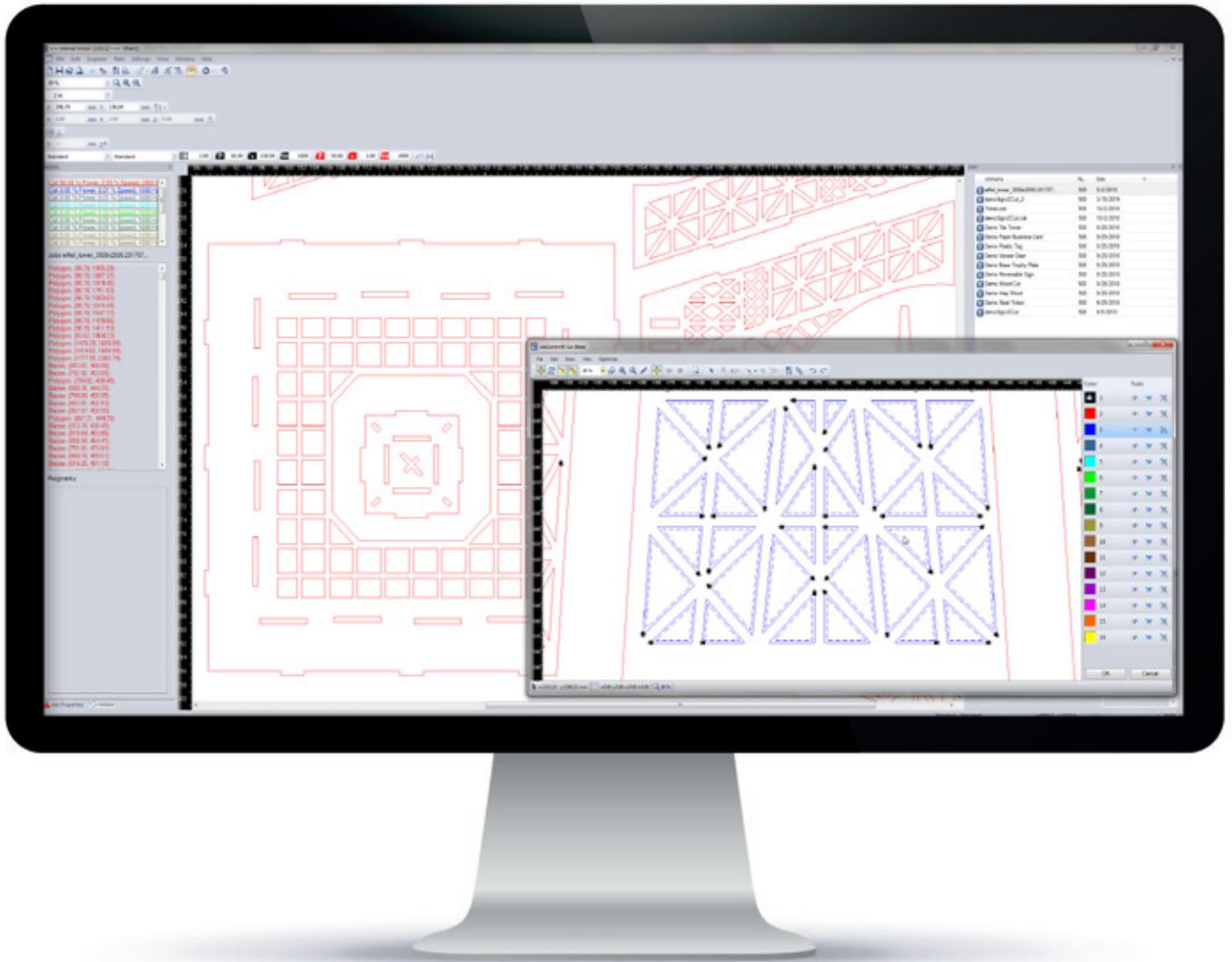


**GERMAN
DESIGN
AWARD
SPECIAL
2017**



Productive and user-friendly software

JobControl® laser software



Simply intuitive. Work efficiently.

Our JobControl® software program was developed to be easy to use and highly efficient. It includes multiple performance-related features and is intuitive for all users. Whatever your experience level, Trotec JobControl® facilitates your daily work with the laser and supports you in achieving perfect processing results.

As easy as printing

Our proprietary JobControl® software allows every user to easily control all laser functions. The program enables fast and efficient working in a familiar graphics or Windows® programs, including Adobe Illustrator®, Adobe Photoshop®, AutoCAD®, InkScape®, CorelDraw® etc.

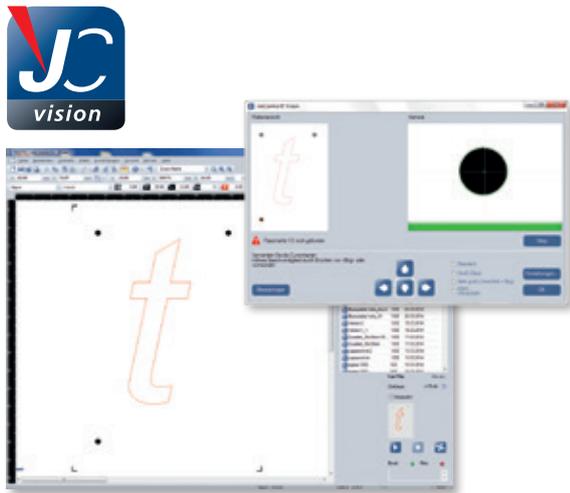
Similar to printing, the finished graphics are sent to the laser via the special Trotec printer driver. At the touch of a button, the machine begins to engrave or cut the inserted material with the stored settings, it's as simple as that.

If you prefer to work with automated workflows, our UniDrive option allows the use of hot folders for the automatic transfer of PDFs or DXF files to the laser.

As productive as you are

In addition to easy operation, JobControl® offers a variety of intelligent features that enable you to work more efficiently. This includes bi-directional communication, JobTime Calculator, markers, vector sorting, job preview and a number of others:

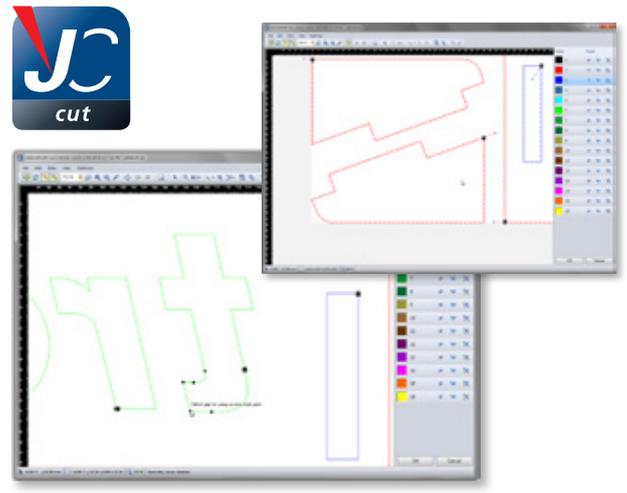
- The built-in material database provides parameters for over 50 different materials to choose from. Any new materials can be added quickly and easily stored for future use.
- Process types stored in the printer driver simplify everyday work by automatically optimising graphics.
- JobControl® can be further customised and adapted to your needs with advanced settings which we can support.



JobControl® Vision

Precise laser cutting of printed materials

Create amazing details and meet the tightest tolerances with JobControl® Vision. The Vision module reads printed registration marks to determine the position and rotation of printed sheet material on the working area of the laser. The system detects print distortions and dynamically adjusts the cutting path to match the artwork, even on flexible materials. This not only speeds up your production, it avoids costly miscuts, guaranteeing a perfectly cut end product.



JobControl® Cut

JobControl® integrated optimisation of basic cutting jobs

JobControl® Cut is a tailor-made, fully integrated solution in our laser software. It enables you to easily process and optimise cutting geometries without changing the original geometries in the graphical software. In only a few steps colour orders are changed, cutting gaps automatically filled, start points defined, the fitting accuracy of components secured, lead-ins and lead-outs defined as well as the processing time optimised. All of this results in a perfect cutting result.

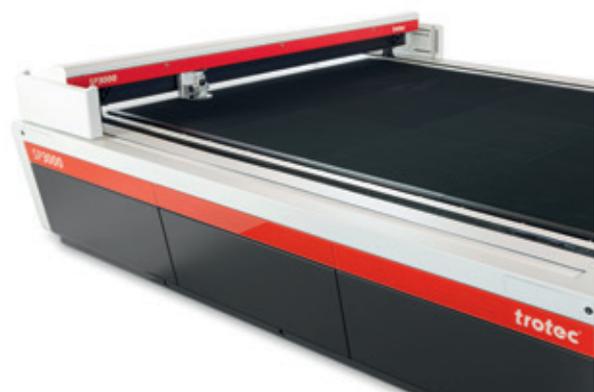
Complete Versatility: The Multifunctional Table Concept

Thanks to the multifunctional table concept, the SP series can quickly adapt to different job requirements, so you can achieve first-class cutting results across a breadth of material specifications.



Slat cutting table

The cutting table with aluminium slats is mainly used for cutting thicker materials (from 6 mm thickness) and for parts wider than 100 mm. Acrylics can be cut with no reflections by exchanging the aluminium with acrylic slats. The number of supporting points can be reduced by removing slats individually, depending on the job.



Aluminium cutting grid table

This robust, universal cutting table is characterised by an extremely stable grid and a long lifetime. It is particularly suitable for cutting tasks with parts smaller than 100 mm, as these remain in a flat position after cutting. Compared to the slat cutting table, the aluminium cutting grid table has more supporting points.



Acrylic cutting grid tabletop

The universal cutting tabletop is ideal for the reflection-free cutting of thin acrylics with a thickness up to 8 mm. As with the aluminium cutting grid table, parts smaller than 100 mm remain in a flat position after the cut.



Honeycomb cutting table

This processing table is especially suitable for applications that require minimal back reflections and for the material to be as flat as possible, e.g. when cutting films.



Digital table exhaust

With the SP3000 and SP2000 laser cutters, it is possible to activate the exhaust system only in specific zones of the work area. Thanks to the segmented

exhaust system, the working area can be divided into four zones with the SP3000 and two zones with the SP2000. The segments can be individually activated by pressing a button on the operating console.

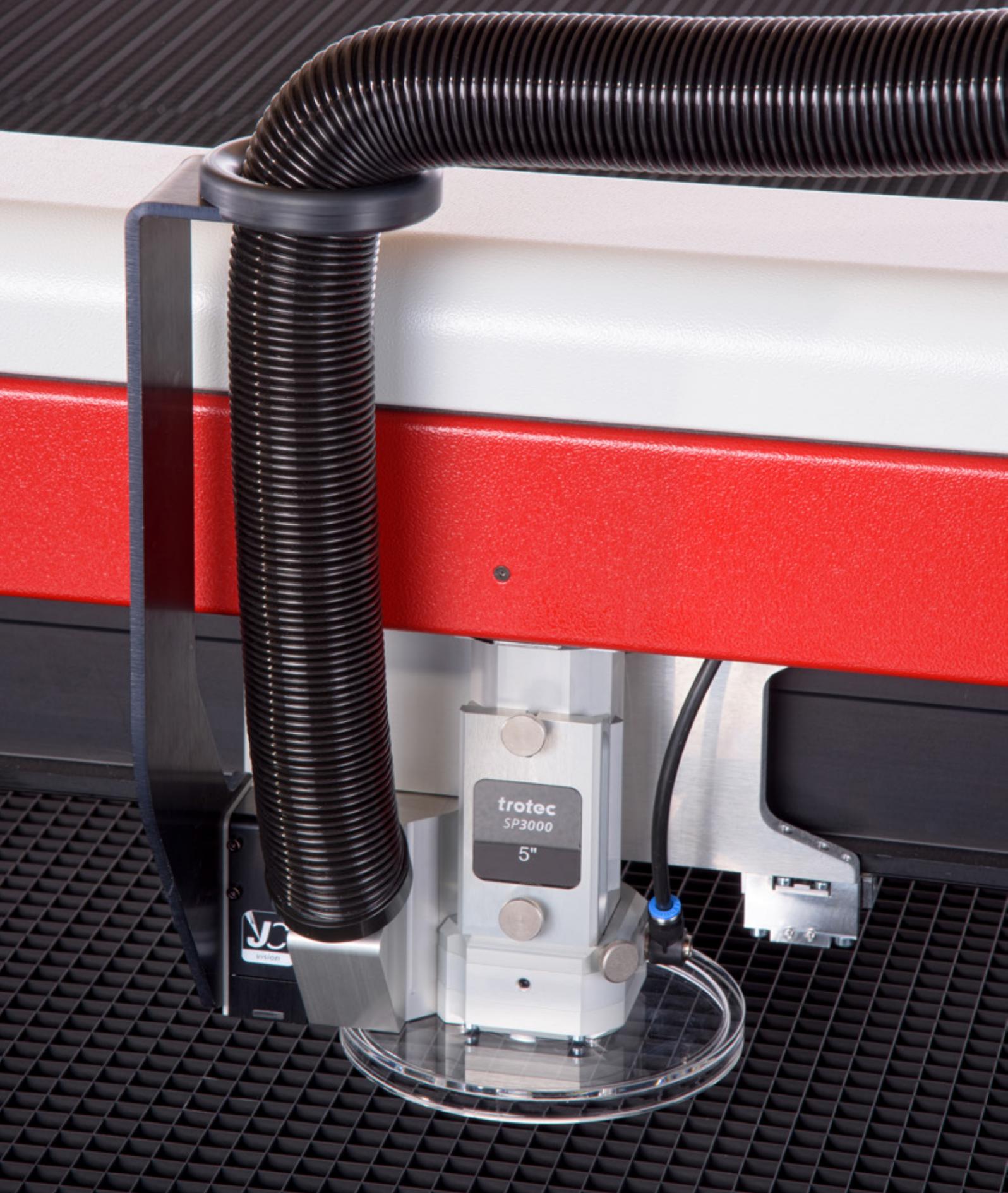


Conveyor belt with feeder unit and unloading table

The SP4000 is a fully automated laser system dedicated for soft signage applications such as banners, flags and light boxes. By combining an automated solution with high cutting speeds and convincing accuracy, high production volumes with perfect quality are achieved.

The large format laser can be flexibly configured around a conveyor belt with feeder unit and unloading table – depending on the desired workflow. All components are perfectly matched.

Reliable, Low Maintenance Operation





Trotec safety system

During the development of the SP3000 and SP2000 laser cutting machines, special attention was paid to both mechanical and laser safety. The SP3000 and SP2000 laser cutters comply with all relevant standards, guaranteeing safe operation.

Laser class 2 for 24/7 production

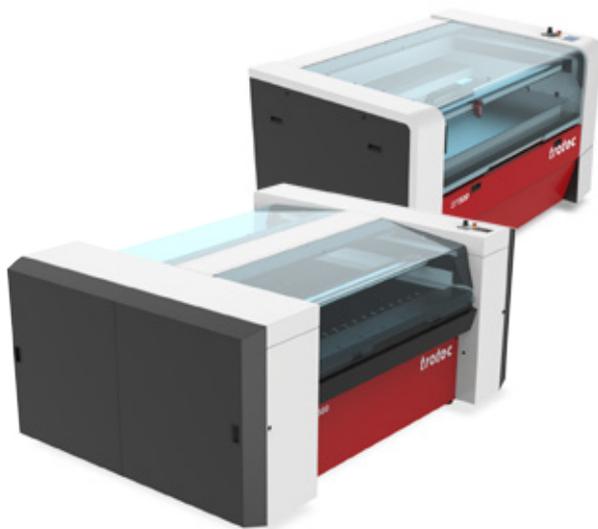
All SP series lasers are certified as laser class 2. The laser beam path is completely encapsulated, with laser radiation, dust and debris exiting the working head, which is equipped with an active laser deflector shield.

Therefore, no structural safety measures such as laser protection walls or special laser safety training for your staff are necessary.

Dust protection with InPack Technology™

With InPack Technology™, we were the first manufacturer in the world to design a self-contained axes design and put it into practise. It perfectly protects both lens and mirrors, electronics, motors and axes from dust and other disruptive factors. The advantages:

- Ensures trouble-free work over an extremely long period of time
- Exceptionally low maintenance and cleaning costs keep operating costs low, even with very intensive use
- Even higher productivity



Closed cabinet large format

The closed machine concept of the SP500 and SP1500 provides ideal conditions for perfect cutting of materials in standard plate sizes that tend to generate high dust levels. This, as well as high-quality and perfectly matched components, low maintenance costs and an intelligent selection of options make these machines the most profitable laser cutting and engraving machines in their class.

Free access while the machine is cutting

Operator protection is a priority at Trotec. A moving light curtain system and safety bumpers mounted onto the moving Y-axis define a protection zone. As soon as the operator enters this protection zone, the machine immediately stops. This makes free access to the working area possible while the machine is still cutting.

The safety features of the SP series offer peace of mind that laser operators are working safely whilst working productively with the open laser bed. A special highlight of the SP series is that if the protection zone is tripped and processing interrupted, the resume function allows seamless continuation of the processing.



Market leading laser source technology

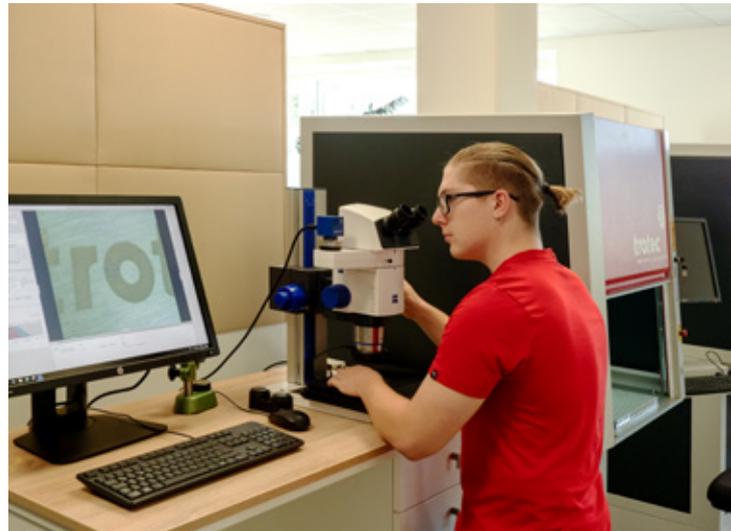
SP series machines up to 120W are equipped with patented CeramiCore® laser source technology. The CeramiCore laser source performance is outstanding, offering a long service life, supreme engraving quality and maximum reliability. Highlights: The resonator of the laser source, i.e. the point at which the laser radiation is generated, is 100 percent ceramic.

SP series laser systems above 120W feature a metal laser source which provides a reliable and stable power output, allowing for repeatable cutting results & precise control for applications such as kiss cutting. These laser sources come with gas purging as standard which maintains internal optical integrity even in harsh environments.

Your safety in pre-purchase

We aim to make our customers more productive, which is why we work together to ensure the right solution for each customer's application. We carry out everything from simple material testing to complex preliminary studies, in which we work with you to develop an overall concept for integrating the laser into your production environment. We also examine application aspects such as the development of the right setup for the specific requirements of your application, or precise cycle time studies.

During your initial enquiry we will ask questions about workflow, the material to be processed and associated processing files. This helps to create a solid basis for your investment while offering peace of mind. Together with you, we work out the right solution for your application pre-purchase.



Better environments with Atmos exhaust systems



Trotec has also set new standards with the Atmos series of exhaust systems. We produce our own extraction models that are optimally adapted to work perfectly with the respective laser machine. A suitable exhaust system ensures the safe and clean operation of your laser, removing dust and gases from the processing area and, with its activated carbon filters, it filters out odours that are generated during laser processing. The Atmos exhaust system helps to deliver the best possible cutting and engraving quality.

Clean

The efficient and thorough filtration of dust, gas and odours extends the service life of your laser system and guarantees a clean and healthy working environment for every user.

Intelligent

For many years, Trotec has been working on optimal coordination of laser and extraction systems, the result is a host of intelligent features. For example, operation via membrane keyboard, the FlowControl Technology and a control function via the laser software.

Economical

A good extraction solution improves engraving and cutting results. Low maintenance costs are guaranteed thanks to sophisticated filter solutions. Due to bi-directional laser communication, the extraction is only activated when necessary. Thus, the laser optics are protected and the filter service life maximised. Your advantage: Thanks to Trotec's all-inclusive laser and extraction service, the Atmos exhaust system is maintained together with your laser.

Atmos Duo Plus

Stand-alone dual turbine design for double performance in demanding applications with medium to high dust generation. The double activated carbon also makes it suitable for odour-intensive applications.

Atmos Pre-Filter

If very large quantities of dust are to be filtered, the use of a pre-filter system is recommended. This is installed between the laser unit and the extraction system. With the help of cleanable cartridges, the filters of the actual extraction system are optimally protected, and the filter service life can be increased many times over. Atmos pre-separators are available in 3 different versions:

- with manual cleaning
- with automatic cleaning
- with automatic cleaning and additive dosing

PowerJet

This high performance exhaust system has been developed especially for laser dust to provide an economic and efficient separation system. The "All in One" concept represents the perfect solution for challenging applications. Dust filtration - odour reduction - turbine - all combined into one device for a safe laser operation and a clean environment!

Trotec Laser & Engraving Materials

Top materials online



With the launch of our extensive line of laser and engraving materials, Trotec has introduced a game changing concept: a single source for low-cost, high quality materials, industry-leading laser equipment, and technical applications support from experts with a knowledge of the systems you are using and the materials you are processing. Our comprehensive line of laser and engraving materials includes laserable wood panels (including MDF and plywood), acrylic sheets in more than 100 colours and finishes, a broad range of laminates (including multi-layer engraving materials for laser or milling), laserable paper, and more. In addition to the convenience of a single-source supplier, using our materials and products together provides a number of benefits.

Benefits include:

- Lowest cost on premium products
- Enhanced design for improved results
- In-house technical support
- Fast delivery
- Easy online purchasing
- Next day delivery

Trotec materials are tested to determine laser parameters, then the parameters are stored in JobControl® laser software settings. This allows you to spare yourself from the costly and time-consuming testing of the optimal settings.

Welcome to our web shop

You can quickly and easily purchase our high-quality laser and engraving materials in our web shop at

www.engraving-supplies.co.uk

On our web shop you will find a comprehensive assortment of products, up-to-date information about our materials, usage and processing tips, and practical sample instructions.

Earn Tropoints on every order

Register for a webshop account and you will earn reward points on every order. No extra registration is required, and when your account is activated you can start earning points immediately.

Register for an account and start earning points today!

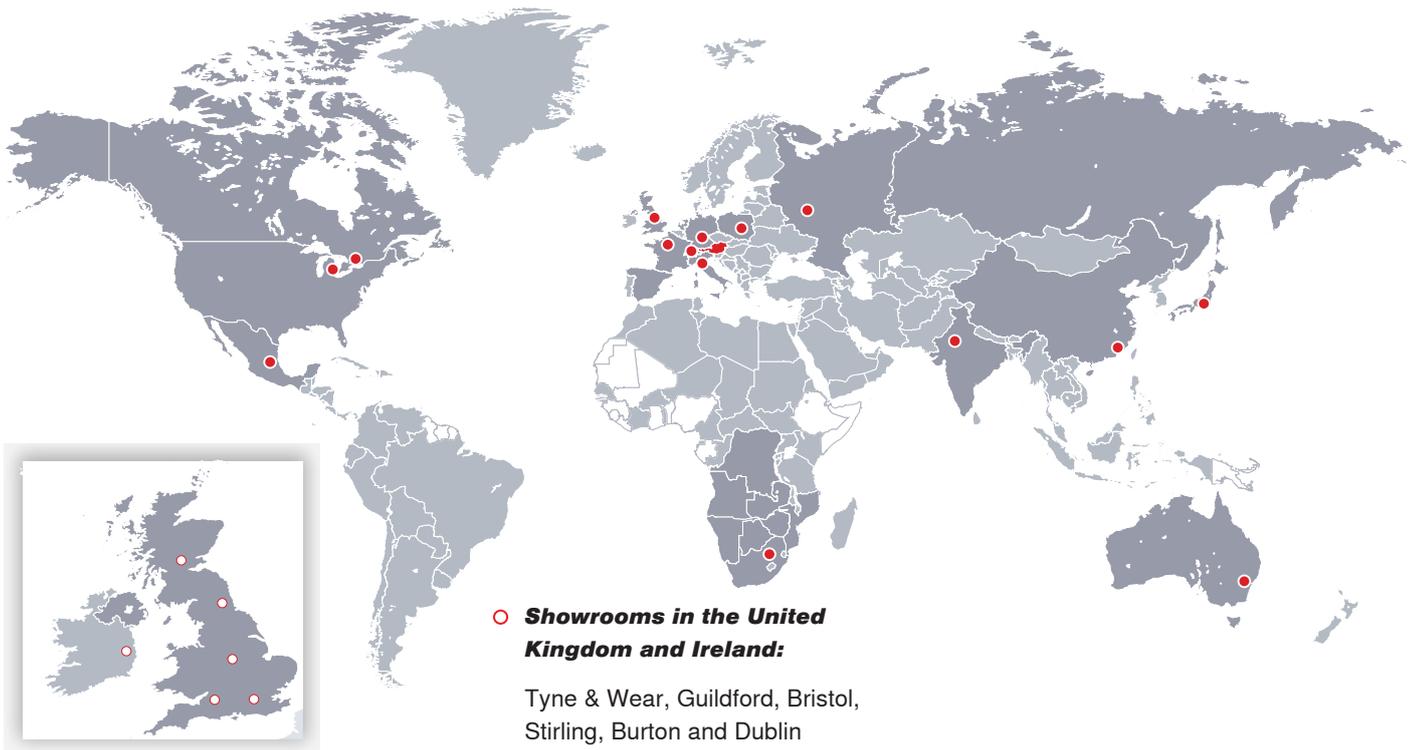
Trotec: Setting New Standards Globally and in the UK

Trotec is a world leader in laser technology headquartered in Austria and part of the Trodat Trotec Holding. With innovative concepts and products, we have succeeded again and again in setting new standards ever since the company was founded in 1997. Whether in terms of quality, new developments or service, we get the same result: enthusiastic customers around the world.

Trotec's consistent commitment to customer support is the reason for the company's global success, as well as one of the central drivers of motivation and innovation globally. At Trotec, being close to the customer is not just an abstract value but a practised reality.

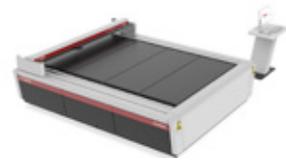
That's why we employ over 50 people in the UK, including a network of highly skilled technical service engineers, applications specialists and customer service advisors. We have six showrooms across the UK and Ireland and our knowledgeable and experienced team is always on hand to provide advice and assistance.

Trotec is present in 18 countries with 68 demo rooms for laser product demonstrations. Overall, with 113 distribution partners we serve customers in over 90 countries.



SP Series Overview

This overview of the SP series will assist you in identifying the differences between the individual laser systems. You can find exact technical details in the data sheets for the respective products.



	SP4000	SP3000
Working area (W x D mm)	3250 x 3210	2210 x 3210
Height ¹ of workpiece (mm)	50	50
Loading area (W x D mm)	3500 x ∞	2500 x ∞
Overall dimensions (W x D x H mm)	4112 x 4346 x 1230	3078 x 3914 x 1230
Max. processing speed	n/a	1 m/sec.
Max. acceleration	1g	1g
Technology motion system	Brushless DC servo motors	Brushless DC servo motors
Laser power CO ₂	60-400 watts	60-400 watts
Laser class	2 ⁴	2
Weight ²	2100 kg	1600 kg
Power consumption	400V 3 Ph. / 50/60 Hz / 3x16 A	400V 3 Ph. / 50/60 Hz / 3x16 A
Software		
JobControl®	●	●
JobControl® Vision	○	○
JobControl® Cut	○	○
Functions and Options		
Four sides access		●
Tandem assist		○
Digital table exhaust	○	○
Feeder unit	○	
Unloading table	○	
Pass-through		
Air-flushed optics	●	●
Travelling exhaust	○	○
Gas kit	●	●
Rotary attachment		
InPack Technology™	●	●
Harsh environment protection kit	●	●
OptiMotion™	●	●
Sonar Technology™	○	○
TroCare	○	○
2 years warranty*	●	●
Multifunctional table concept		
Aluminium cutting grid table		○
Acrylic cutting grid table or tabletop		○
Aluminium slat cutting table		○
Acrylic slat cutting table		○
Vacuum table		
Honeycomb cutting tabletop		○
Wire mesh conveyor belt	●	
Lenses		
2.0 inch CO ₂		
2.5 inch CO ₂	●	●
2.5 inch CO ₂ clearance lens		
3.75 inch CO ₂		
5.0 inch CO ₂	○	○
Compatible exhaust systems		
	Vent Set 3000	Vent Set 3000
	Atmos PowerJet	Atmos PowerJet

*Subject to terms and conditions.
Service contracts also available.

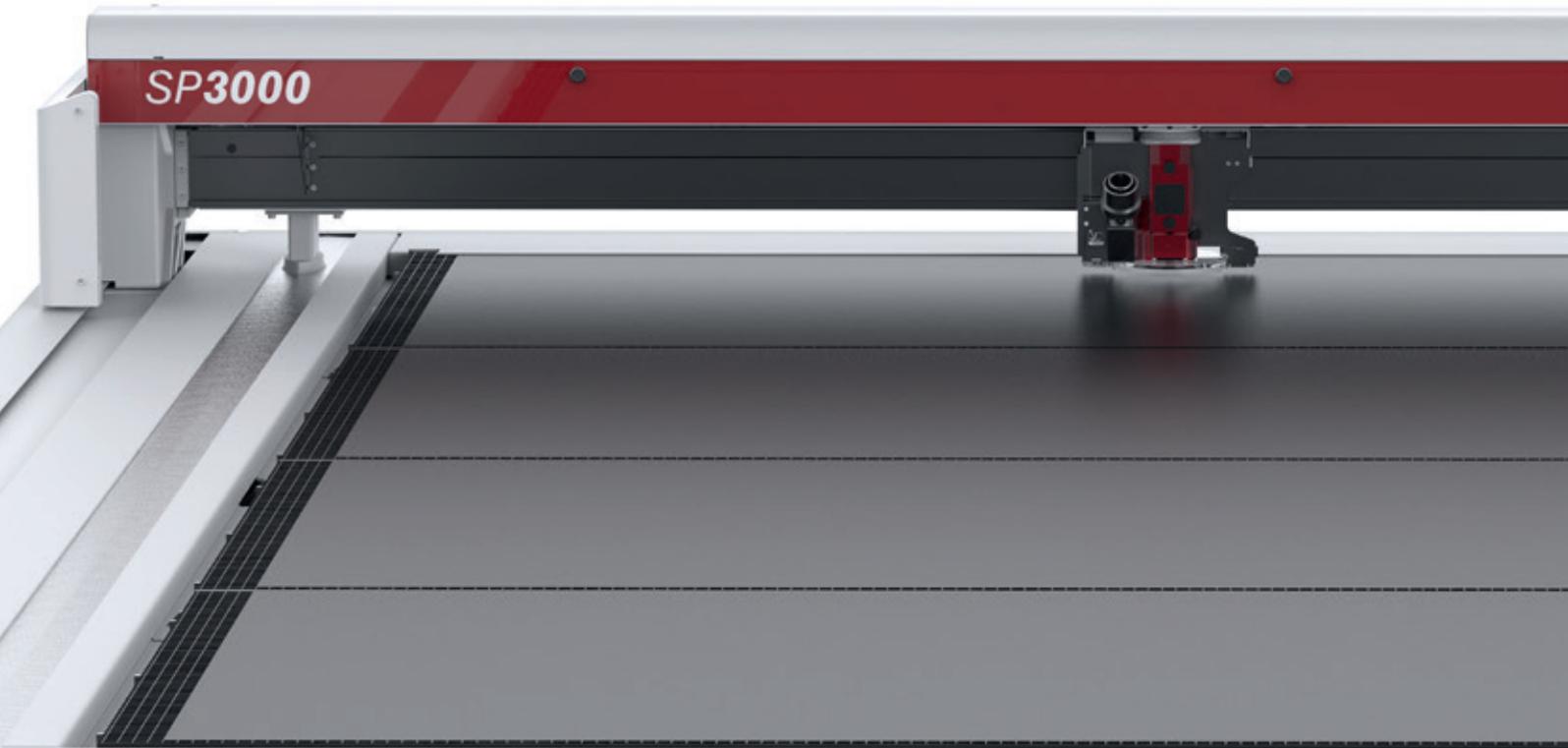
● Standard ○ Optional

1 Based on standard lens
2 Depending on laser power

3 Laser class 4 with pass-through
4 With optional safety kit

trotec

laser. marking cutting engraving



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