Laser systems:

Up to the challenge.

TRUMPF

Machine Tools/Power Tools
Laser Technology/Electronics

Giving you the edge in laser technology.

Contents

The TRUMPF Group ranks among the world's leading manufacturers of laser and production technology. Our innovations set the standard – in lasers and laser systems, in electronics, and in machine tools.

Our customers have relied on the superior quality of our technical solutions since 1923. The first 5-axis machine in 1986 and the combination of laser and robot technology in the 1990s were milestones in laser processing.

Today, TRUMPF is a global and technological leader in industrial lasers and laser systems. Through continuous research we build on this foundation for our customers.

The Power of Choice

LASERS BY TRUMPF

TruLaser Cell 8030

Compact 3D laser cutting machines for maximum productivity and minimal part costs, ideal for cutting hot-formed components.

TruLaser Cell Series 7000

High-end laser machines for cutting, welding and deposition welding of large 3D components with CO_2 or solid-state lasers.

TruLaser Cell 3000

All-purpose laser machines for cutting and welding small and medium-sized 2D and 3D components using solid-state lasers.

TruLaser Cell Series 1000

Variable beam guidance systems with CO_2 and solid-state lasers for continuous welding of coils, tubes or profiles – easy to integrate.

TruLaser Station 5005

Compact and ergonomic laser welding workstations for manufacturing small and medium-sized components.

Why TRUMPF laser systems are captivating.

The most versatile tool in the world.

Laser cutting, laser welding and surface processing – there are few tools as versatile as the laser. For this reason, TRUMPF laser technology is used in many different industries. Whatever your processing needs or application, our lasers always provide stable parameters and reliable process results. The contact-free and effortless processing eliminates wear and tear. Your automated production line will benefit from high system availability and, when processing short-run batches, you will have the advantage of minimal tooling and programming times.

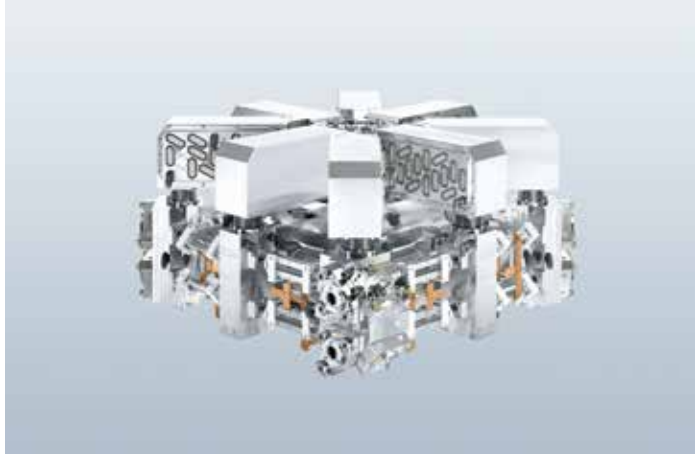
Reliable processes, high quality.

With TRUMPF, you benefit from decades of experience in all laser-related areas. As machine tool builders, we have extensive knowledge about integrating beam sources with systems – whether this involves complex laser processing centers or simple beam guidance systems. In addition to all of the hardware, we also develop the software for our laser systems. Everything works hand-in-hand and very smoothly.

Always the right laser.

At TRUMPF, you will find the exact beam source that you need. From 20 W solid-state lasers to 20 kW CO_2 units, fast flow or diffusion cooled, pulsed, for high-speed cutting, laser deposition welding, or microprocessing.

TruDisk solid-state laser.



TruFlow CO_2 laser.

TRUMPF LaserNetwork: Lasers and systems working together in perfect harmony.

TRUMPF laser systems have a modular design so your machine is perfectly tailored to your applications. This feature and a broad array of focusing optics give you a wide processing scope.

The TRUMPF LaserNetwork offers special benefits. You can use it to intelligently network multiple solid-state lasers and several processing stations. This allows you to better utilize an individual laser and increase your machine capacity. The TRUMPF LaserNetwork's power-splitting or time-sharing function gives you greater flexibility even with CO_2 lasers.

Everything for automation.

Select a product that makes your work easier from our comprehensive range of automation components. You will find a variety of processing tables as linear or rotary changers for automated production and two-station operations for parallel loading while processing.

The seam sensor system, SeamLine, detects workpiece tolerances and helps to compensate for them. And FocusLine automatically adjusts the focal position to the material type and thickness. In addition, you can equip most TRUMPF laser systems with the DepositionLine technology package for laser deposition welding. Just tell us your goals and we will help you determine the standard TRUMPF components required for your system's specific configuration.

efficiency+

We strive to work cost-efficiently and responsibly through our sensible use of resources.

- **High-speed processing of thin sheets reduces cutting gas consumption.**
- **Our TruDisk, TruFiber and TruDiode continuous-wave solid-state lasers are designed for maximum efficiency.**
- **Utilization of lasers and machines is optimized by linking them in a TRUMPF LaserNetwork.**

TruLaser Cell 8030

TruLaser Cell 8030: Benefits at a glance.

1. **Maximum productivity.**
2. **Superior energy efficiency.**
3. **Automated for short cycle times.**
4. **Innovations to increase process reliability.**
5. **Compact footprint.**

The second-generation TruLaser Cell 8030 sets the standard for the 3D cutting of hot-formed components. Thanks to newly developed technologies and optimized details it offers even greater process reliability combined with arguably the highest productivity on the market. For example, the ObserveLine slug detection system responds 10% faster than before, making it the swiftest sensor system currently available, guaranteeing you minimum cycle times. Its small footprint, short downtimes, and robust design with patented suction method make the TruLaser Cell 8030 the industry's best-selling 3D machine worldwide. Customers benefit in particular from reduced investment costs (as a result of the modular design), the TruDisk 2000's lower energy consumption and simple, cost-effective automation solutions.

Maximum productivity.

Use automation to make your manufacturing more cost-effective: The highly dynamic rotary changer and the newly available rotary indexing table, with completely separate loading and unloading area, ensure maximum productivity and cost-effectiveness. Depending on your production requirements, you can use the rotary indexing table as a semi-automated solution or expand it into a fully automated one. The residual runtime display in the machine housing makes your production process even more transparent.

TruLaser Cell 8030

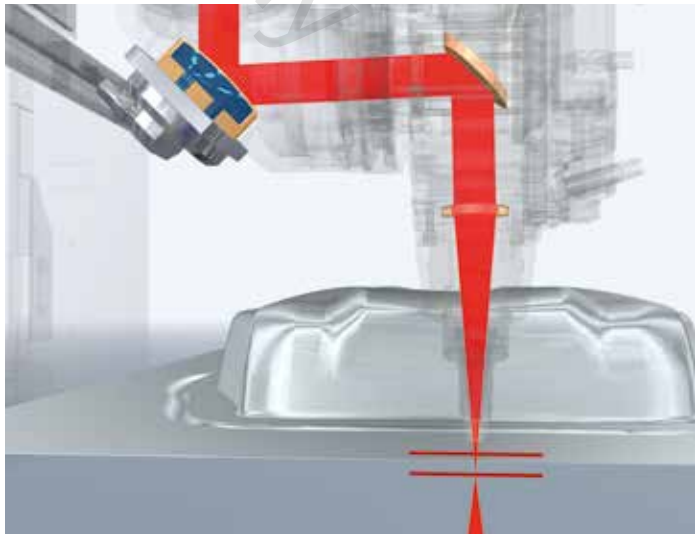
Superior energy efficiency.

The compact TruLaser Cell 8030 is now also available with the TruDisk 2000 solid-state laser with 2 kW laser power. Its outstanding beam quality allows virtually identical machining times to those achieved by the well known and proven TruDisk 3001. In addition, the TruDisk 2000's lower power consumption and investment costs compared to the TruDisk 3001 reduce part costs even more.

Automated for short cycle times.

Following the advances that have been made with the machine itself, productivity bottlenecks are now frequently found in manual loading and unloading. Happily, help is at hand in the form of the rotary indexing table, which means separating the loading and unloading area completely. As a cost-effective semi-automated alternative you can also place one robot on the unloading side. This allows you to realize minimal cutting times with just one operator and makes your manufacturing processes substantially more productive and cost-effective. Should your requirements change over time, you can then expand this version into a fully automated solution at any stage.

The dynamic rotary changer reduces unproductive time to just 5 seconds.



FocusLine – automatic adaption of the focal position.

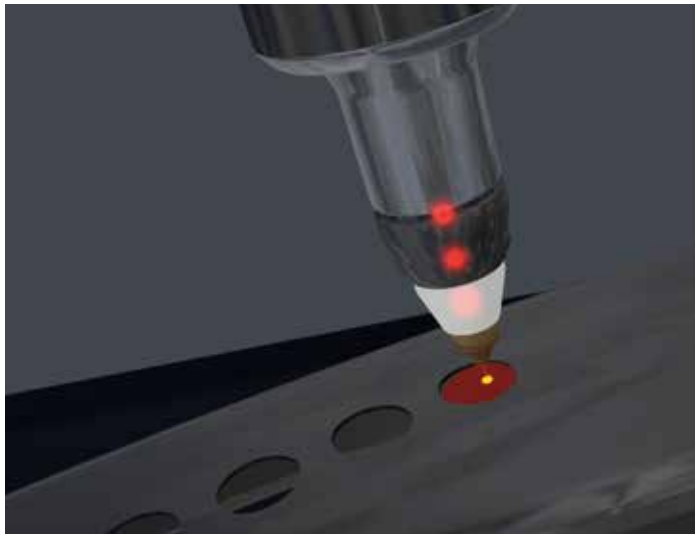
Innovations to increase process reliability.

You have numerous functions to choose from to make your production processes more reliable. Patented inventions such as the ObserveLine visual slug detection function help to increase part quality and the reliability of your production process. The sensors act so quickly that their impact on the duration of the cutting cycle is negligible. FocusLine is an automatic focal position adjustment solution that enables you to cut workpieces of different thicknesses and materials without compromising on quality. FastLine Cell permits on-the-fly piercing, a technique that reduces unproductive time and guarantees maximum process reliability. The residual runtime display gives you all the information you need at a glance. it shows the processing time remaining for the component being worked on along with additional information about the status of the current manufacturing job.

Compact footprint.

The TruLaser Cell 8030 takes up less than 540 ft² (50 m²) of floor space. The electrical control units are integrated in the body of the machine and the overall design guarantees a rapid startup. You can integrate the new machine into your existing manufacturing environment and start working with it immediately.

As well as being compact, the layout of the TruLaser Cell 8030 is also highly user-friendly and ergonomic. For example, the rotary changer can be easily accessed from the front and from both sides. The Comfort Loading option enables flexible accessibility, making it easy to load the rotary indexing table from three sides. In addition, the carefully thought-out safety concept facilitates flexible parts management and minimizes the walking distances required to load and unload parts.



ObserveLine visual slug detection sensors.

Compact footprint and optimum accessibility.

TruLaser Cell 8030	
	TruLaser Cell 8030
Working range	
X|Y|Z axis	120|50|24 in.
B axis	± 135°
C axis	n x 360°
Axis speed	
X|Y|Z linear axis	3937 in /min
B|C axis	90 1/min
Axis acceleration	
Simultaneous	681 in/s²
X|Y|Z axis	394|394|394 in/s²
B|C axis	200|100 rad/s²
Positioning range[1]	
Linear axes X|Y|Z	0.001 in.
Rotating axes B|C	0.005°
Positioning deviation[1]	
Linear axes X|Y|Z	0.003 in.
Rotating axes B|C	0.015°
TRUMPF lasers	
Available lasers	TruDisk 2000, TruDisk 3001, TruDisk 4001
Laser power	2000–4000 W
Beam quality	2–4 mm·mrad
Rotary changer | Rotary indexing table	
Diameter	157.5|189 in.
Workstations	2|3
Max. load per side	661 lbs.
Time to completely rotate the rotary changer	2.3 s
Typical rotation time[2]	ca. 5 s

[1] Pure mechanical precision without control compensation, measured in accordance with VDI 3441 through the total length of axis travel.

[2] Transition from beam focus on part 1 to beam focus on part 2.

Subject to alteration. Only specifications in our offer and order confirmation are binding.

TruLaser Cell Series 7000

TruLaser Cell Series 7000: Benefits at a glance.

1. Modular design and customized retrofit options.
2. Flexible processing options.
3. The best processing quality.
4. Cost-efficient manufacturing.
5. Easy, ergonomic operation.

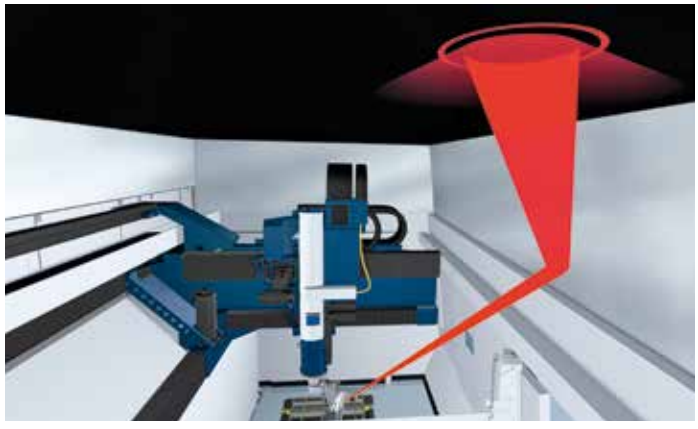
With a flexible laser system from the TruLaser Cell Series 7000, you have everything you need – regardless of whether you want to process two- or three-dimensional components or tubes. This applies to manufacturing prototypes as well as high-volume serial production. You can cut or weld thin and thick metal components, or even specifically change surfaces with deposition welding. Virtually any type of metal can be processed including mild steel, galvanized sheet metal, aluminum, or even stainless steel.

Modular design and customized retrofit options.

The TruLaser Cell Series 7000 gives entry-level users easy and low-cost access to laser processing. Different components can be combined according to a modular principle and easily upgraded when needs change. You can be sure to find the machine you need and the appropriate laser in the TRUMPF product portfolio – its configuration depends on your specific application, for example, if your application would be best served with a CO_2 or solid-state laser. In addition, you can choose from different working ranges and adapt the modular welding optics to the widest variety of tasks.

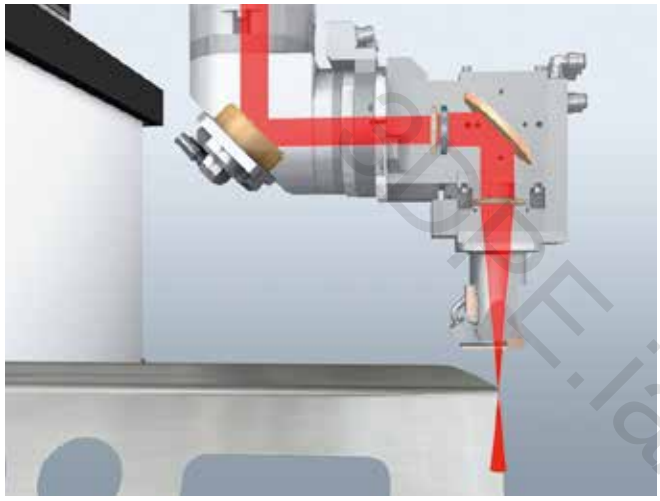
Numerous automation modules increase productivity. To set up and produce simultaneously, the right choice is a two-station operation with a partition that divides the workspace into two areas. The perfectly attuned safety concept allows you to implement a two-station solution, even when using solid-state lasers which require greater safety precautions. The linear changer's movable worktables make it easy to exchange parts. The rotary changer is particularly well suited for high quantities and simplifies component handling in the loading and unloading stations. If requested, robots can handle component loading and unloading.

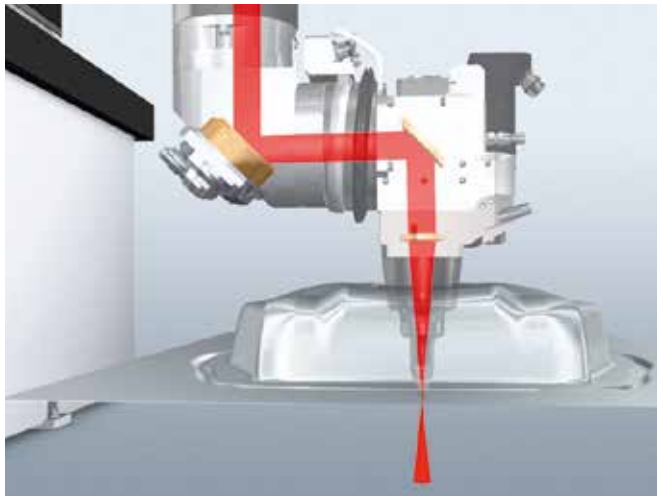
Two-station operation: loading and unloading while processing.



Two-station operation with a solid-state laser: highly reflective side panels and an absorbent canopy.

TruLaser Cell Series 7000





Welding or cutting: fast switching between processes with 2in1 fiber.

Flexible processing options.

The TruLaser Cell Series 7000 can be used for cutting, welding and deposition welding. The 2in1 fiber solution for solid-state lasers enables the same optical cable to be used for both welding and cutting operations. To switch from cutting to welding or vice versa, it is merely necessary to replace the processing optics – the system controls will automatically adjust the output. In this way, you not only achieve the optimum processing results, but also benefit from owning a system that is easy to operate and can be used in a wider range of applications.

The best processing quality.

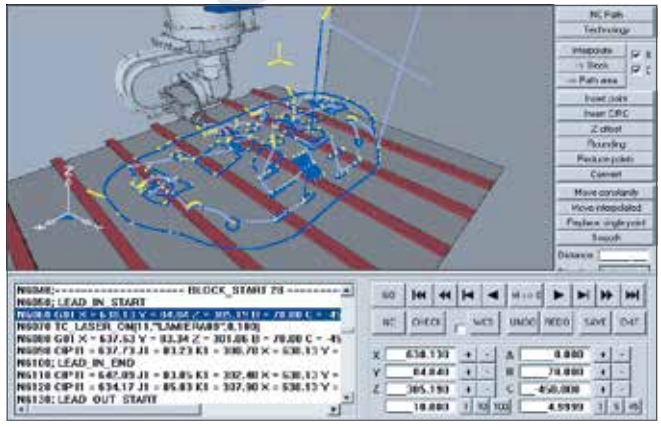
Uniform processing results are guaranteed by the automatic raw beam adjustment of CO_2 lasers across the entire operating range. Additionally, all of TRUMPF's laser expertise is stored in the technology tables so you can quickly modify your machines to different materials and sheet thicknesses for cutting and welding. All mirrors are water-cooled to guarantee stable processes and constant optical conditions.

Cost-efficient manufacturing.

The TRUMPF TruLaser Cell Series 7000 sets new standards in terms of speed and production efficiency. A major contributing factor is unrivaled positioning speeds and axis acceleration rates. On-the-fly piercing when cutting with FastLine Cell reduces unproductive time by up to 40%. The dynamic cutting optics allow very high acceleration rates and ensure a constant distance between the nozzle and the workpiece. The magnetic coupling on the processing head reduces downtime by cutting the contact between the optics and the Z axis in the event of collisions, triggering a safety shutdown. A simple manual intervention is all that is needed to re-establish a precise connection. The LensLine function monitors the focusing lens and disconnects the laser before it emits any contaminating vapor, preventing contamination of the beam guidance system and increasing availability.

Easy, ergonomic operation.

A number of innovations make operating a TruLaser Cell Series 7000 extremely comfortable. The ergonomic control panel is suspended from the machine enclosure saving space. It can be rotated, operated from the enclosure or, as an option, moved to the ideal position along the front side of the machine. The 6D mouse makes it easy to run-in, teach-in and move the axes quickly. Using the TruTops Cell Basic software, programs can be adjusted quickly and easily directly on the machine – without making changes to the offline programming system. The control unit itself detects which processing optics is installed. The optics can be exchanged quickly and without errors.



Top photo: Always in the right location: the movable control panel.
Center photo: Rapid run-in and teach-in using the 6D mouse.
Bottom photo: Change programs on the machine using TruTops Cell Basic software.

TruLaser Cell Series 7000			
	TruLaser Cell 7040	**TruLaser Cell 7020**	**TruLaser Cell 7006**
Working range			
X axis	160 in.	80 in.	26 in.
Y axis	60 in./80 in.	60 in./80 in.	60 in./80 in.
Z axis	30 in.	30 in.	30 in.
B axis	± 135°	± 135°	± 135°
C axis	n x 360°	n x 360°	n x 360°
Dynamic cutting optics	± 0.4 in.	± 0.4 in.	± 0.4 in.
Axis speed			
Simultaneous	6811 in/min	6811 in/min	6811 in/min
X|Y|Z linear axis	3937 in/min	3937 in/min	3937 in/min
B|C axis	90 min^{-1}	90 min^{-1}	90 min^{-1}
Axis acceleration			
Simultaneous	630 in/s^2	630 in/s^2	630 in/s^2
X|Y|Z linear axis	354|394|394 in/s^2	354|394|394 in/s^2	354|394|394 in/s^2
B|C axis	200|100 rad/s^2	200|100 rad/s^2	200|100 rad/s^2
Dynamic cutting optics	1575 in/s^2	1575 in/s^2	1575 in/s^2

TRUMPF laser	
Max. laser power of TruFlow CO_2 laser	15000 W
Max. laser power of TruDisk solid-state laser	6600 W

Precision[1]	
Lowest programmable path measurement	0.00004 in.
Max. repeatability[2]	
Linear axes X|Y|Z	0.001 in.
Rotation axes B|C	0.005°
Max. position deviation[2]	
Linear axes X|Y|Z	0.003 in.
Rotation axes B|C	0.015°

[1] The achievable accuracy in the workpiece depends on the type of workpiece, its pretreatment, sheet size, material type, and position in the working area among other things. Due to the modular program of the TruLaser Cell Series 7000, the technical data is based on a variety of components which result from the options selected.

[2] Pure mechanical precision without control compensation, measured in accordance with VDI 3441 through the total length of axis travel.

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TruLaser Cell 3000

TruLaser Cell 3000: Benefits at a glance.

1. High productivity.
2. Process reliability and top part quality in 2D and 3D.
3. Flexible processing options: welding and cutting.
4. Easy automation.
5. User-friendly with very good ergonomics.

TRUMPF's TruLaser Cell 3000 offers something unique: a highly flexible 5-axis laser machine for two- and three-dimensional cutting and welding operations. Whatever the scale of the manufacturing job, from one-off prototypes to high-volume production, this all-around talent always delivers convincing results. It is particularly well suited to applications requiring cost-efficient and high-quality laser processing of small or medium-sized components. Integrated electrical control and cooling units save space and contribute to the machine's small footprint. Typical users include contract manufacturers, suppliers to the automotive industry, the electronics sector, and companies specializing in precision engineering and medical technology.

Laser cutting with customized fixture technology.

High productivity.

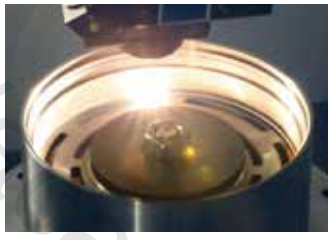
By connecting different solid-state lasers, you can process a wide variety of materials, including highly reflective metals such as copper and brass. With FocusLine Professional the focal position and diameter can be automatically adjusted. In practical terms FocusLine Professional means minimum downtimes and maximum flexibility. The single cutting head strategy enables you to cut materials of different thicknesses without changing the focusing optics. Users who handle a large number of separate processing jobs involving many different materials stand to benefit most from this innovative solution: the reductions in downtimes and costs are substantial.

Process reliability and top part quality in 2D and 3D.

The VisionLine image processing system automatically recognizes component features such as edges or holes, and reports the corrections needed in regards to positioning of the workpiece. This ensures optimal processing results and maximum process reliability even for tight-tolerance workpieces. For common laser types ideal cutting parameters are stored in the controls in the form of technology tables which minimizes the time spent on programming. The optional new High Accuracy axis control system with a repeat accuracy of just a few micrometers makes the machine a specialist in high-precision finishing and ensures ultra-fine machining contours.

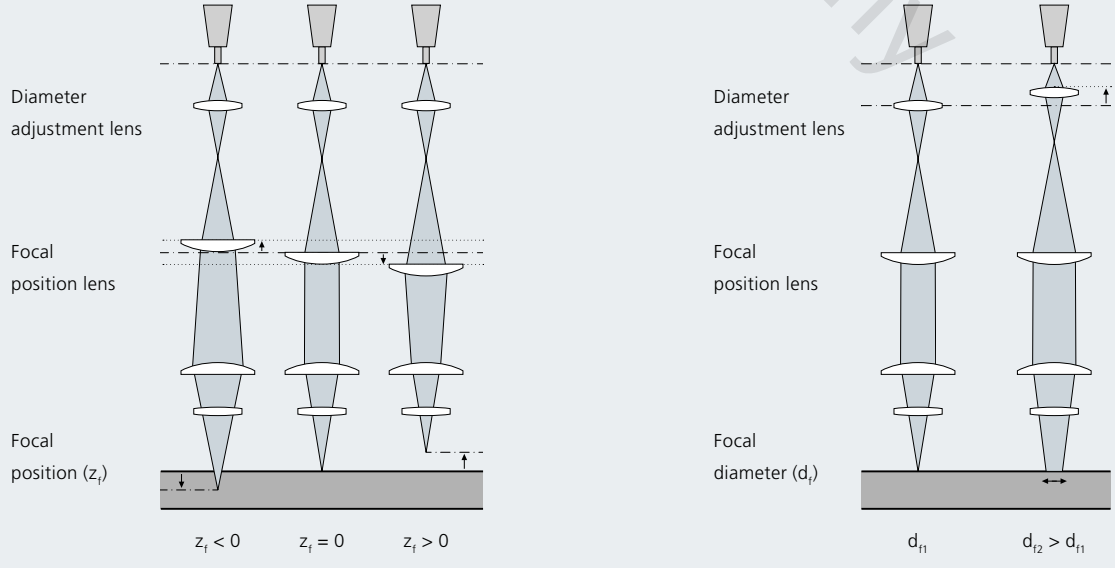
Laser welding a shaft.

Laser cutting a seatbelt panel.



Laser welding the housing of a water pump clutch.

Laser cutting the housing of a water pump clutch.



Adjustment of focal position (left) and focal diameter (right) with FocusLine Professional.

TruLaser Cell 3000

Welding process adapter.

Cutting process adapter.

Laser cut crimp contacts and spring elements.

A selection of different laser cut materials.

Laser cut bone reamer.

Laser cut kitchen knife.

Laser cut and laser welded housing of a water pump clutch.

Car axle differential gear with deep welded seam.

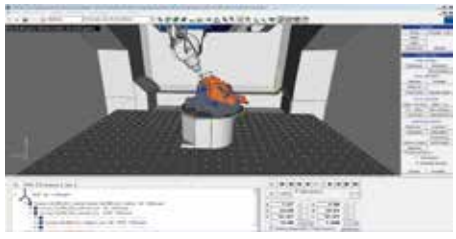
Flexible processing options: welding and cutting.

A TruLaser Cell 3000 allows you to both cut and weld 2D and 3D applications. Its range covers everything from delicate precision cutting to welding sheet metal several millimeters thick. The 2in1 fiber developed for solid-state laser jobs enables you to weld and cut with the same optical cable. When switching between processes, you only have to change the process adapter – the system controls adjust the laser beam automatically.

Burr-free cut edges with outstanding edge quality and a small heat-affected zone can be achieved with the TruLaser Cell 3000. The ControlLine distance sensors balance out variances in 2D and 3D workpieces and maintain a constant distance between the cutting nozzle and the sheet metal. This allows you to avoid collisions even with greater workpiece tolerances and to reliably obtain top cutting results every time. Depending on the component and process, the modular workpiece table can be fitted with 2D cutting supports, rotary axes, or customized fixtures.

Rotary changer with rotating axis.

Optimal access to working area from three sides.



Easy 3D programming with TruTops Cell.

Teach panel for fast creation and optimization of laser programs.

Easy automation.

Automating the machine according to specific customer requirements for higher unit volumes couldn't be easier. If you want to manufacture and set up parts at the same time, choose two-station mode with rotary changer. This is especially well suited for high unit volumes and ensures easy component handling at one loading and unloading position. Robots can even look after the loading and unloading of components whenever required. With its generous lateral accessibility, the TruLaser Cell 3000 can also be integrated smoothly into complete production lines with linear transfer systems and workpiece changing systems. In addition, the machines can be incorporated into the TRUMPF LaserNetwork, enabling you to increase utilization and cost-effectiveness.

Extremely user-friendly and ergonomic.

With easy programming you can go from initial design to finished part in no time. TruTops Laser makes programming cutting jobs in 2D straightforward and reliable. The program nests the various parts in the most efficient way and selects the most cost-effective laser power for the job at hand. When 3D processing, you benefit from TruTops Cell programming. This process-reliable system automatically generates your NC program from the tool path while the machine is in operation as well as helping you with fixture construction. With TruTops Cell Basic, which is available right on the control unit, you can also optimize programs directly on the machine.

The intuitive and ergonomic teach panel facilitates speedy programming directly at the workpiece. Special auxiliary programs make sure that the tool path can be determined swiftly and securely. You can travel along the axes with precision using the 6D mouse while the integrated display shows you all pending actions.

TruLaser Cell 3000		
Working range		
X | Y | Z axis	32 | 24 | 16 in.	
B axis	± 135°	
C axis	n x 360°	
Max. workpiece size 2D	32 in. x 24 in.	
Max. processing range 3D	Ø 24 in. x 9 (21)[1] in.	
	Axis speed	**Axis acceleration**
Simultaneous	3346 in/min	669 in/s²
X | Y | Z axis	1969 in/min	394 in/s²
Rotating axis B	120 min⁻¹	130 rad/s²
Positioning accuracy[2]		
X | Y | Z axis	0.0006 in. | 0.0002 in.[3]	
B axis	0.03°	
Rotary changer		
Diameter of rotary table	42 in.	
Max. load per side	210 lbs.	
Rotation time	3.1 s	
Dimensions		
Width | Depth | Height	63 | 112 | 104 in.	
TRUMPF laser		
Max. laser power	8000 W	
Available solid-state lasers	TruPulse, TruFiber, TruDisk, TruDiode, TruMicro	

[1] With W1 axis.

[2] Measurement data recorded at ToolCenterPoint (TCP) of processing optics.

[3] High Accuracy axis system.

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TruLaser Cell Series 1000

TruLaser Cell 1100 Basic Edition: Benefits at a glance.

1. **Robust, easy and fast to integrate.**
2. **Minimal costs per foot of welded material.**
3. **Process reliability with weld tracking.**

Robust and easy to integrate.

A compact entry-level machine, the TruLaser Cell 1100 Basic Edition can be quickly and easily integrated into roll forming systems. With the two-part machine frame and the pre-assembled and pre-adjusted laser, you can set up the system in no time. The robustness and wear resistance of the machine's components are particularly impressive. Water cools the main components of the CO_2 laser, which is mounted directly on the machine frame.

Continuously welded tubes.

Cost-effective laser tube welding.

The compact entry-level TruLaser Cell 1100 Basic Edition is designed for the continuous welding of coils and tubes. It reliably welds mild and stainless steel ranging from one tenth of a millimeter to several millimeters thick, yielding reproducible results. For optimal welding results and surface processing without start-up times you can work with two shielding gases simultaneously. The system's interfaces are reduced to the minimum required, however, easy communication with the higher-level machine controls of the roll forming system is assured. Low investment costs and high welding speeds make the TruLaser Cell 1100 Basic Edition a truly compelling choice. It enables you to obtain significantly lower costs per foot of welded material than arc welding methods.

Process reliability with weld tracking.

The TruLaser Cell 1100 Basic Edition is especially useful for simple tube welding applications and occasional product changes on your roll forming machine. It is extremely easy to operate: The mechanical axes can be adjusted manually. With the help of the mechanical weld tracking option, you always weld at the right place, making for optimum process stability. The SpeedLas optics eanble very high welding speeds when using heat conduction welding with shallow welding depths. Another available option is the diameter adjustment mirror – depending on what you need, you can select different laser beam diameters for optimal component processing.

TruLaser Cell Series 1000

Continuous welding of tubes.

TruLaser Cell 1100: Benefits at a glance.

1. Robust and easy to integrate.
2. Can be configured to meet individual needs.
3. Cost-effective due to state-of-the-art beam sources and sensor technology.

Perfect for coils, tubes and profiles.

The TruLaser Cell 1100 is a flexible beam guidance system that can be easily integrated into a production line. It is designed to continuously weld all seam geometries for strips, tubes or profiles and to process axially symmetric parts. You can use it to weld mild steel, stainless steel, aluminum and non-ferrous heavy metals, in thicknesses ranging from a tenth of a millimeter to several millimeters. Depending on the application and the material, you can achieve welding speeds of up to 328 ft/min (100 m/min). With the encapsulated beam guidance and the water-cooled copper mirror, the systems are particularly robust and reliable.

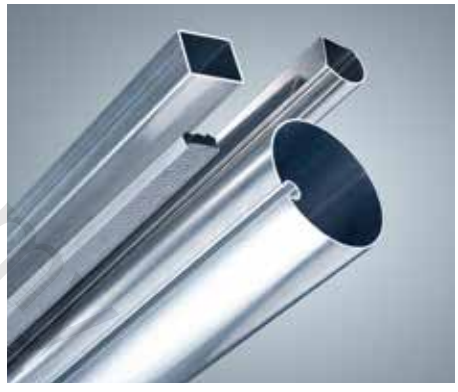
Customized.

The system is individually configured to meet your requirements in terms of strokes or linear axes, working height or travel area. You can even use it as a mobile system. It features CO_2 lasers from the TruFlow Series and solid-state lasers from the TruDisk and TruDiode Series as the laser beam source. The beam can be positioned either parallel or perpendicular to the processing direction, depending on the application. The specific application is optimized with additional adjustable axes for the optics. Flexibility, quality and reliability are increased by a wide range of welding optics with linear or swivel axes and sensor systems for finding and tracking weld seams, such as the SeamLine system.

The TruLaser Cell 1100 for processing profiles.

Cost-effective due to state-of-the-art beam sources and sensor technology.

Efficient beam sources allow you to manufacture with minimal operating costs and weld at high speeds. With SeamLine process sensor technology and the SeamLine Pro weld sensor system you get reproducible welding results right from the start. The process gas saving function reduces the amount of process gas required down to the bare minimum with proportional valves, enabling time-controlled savings of up to 35%.



Continuous welding of tubes and profiles.

Easy to control and operate.

Operation of the TruLaser Cell 1100 and all its options, including the diameter adjustment mirror and SeamLine, is easy and intuitive to use as a result of the built-in control panel. Through the open interface architecture to the roll forming system, integrating the TruLaser Cell 1100 is simple. And naturally, the TruLaser Cell 1100 is Telepresence-capable, along with the beam source and all options.

Laser welded short profiles.

SeamLine Pro

SeamLine Pro:
Benefits at a glance.

1. Comprehensive process sensor technology.
2. Active monitoring for precise results.
3. Increased system availability.

Keep track of everything while welding.

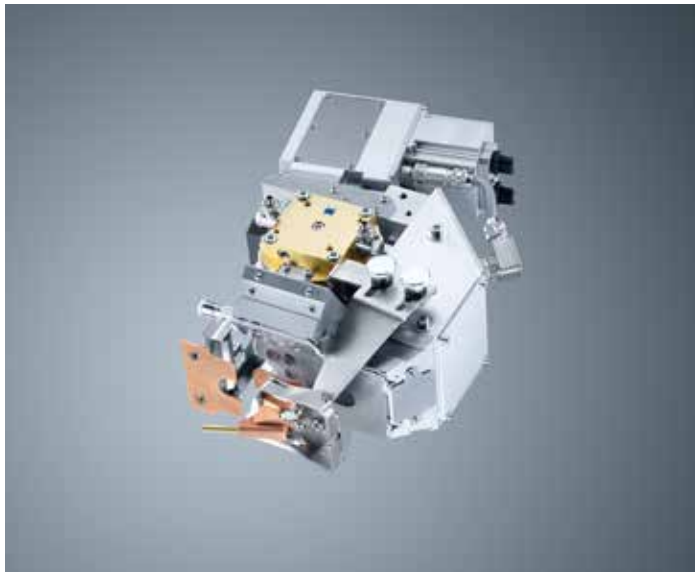
With the SeamLine Pro process sensor system, re-work and rejects become a thing of the past. The weld sensor system monitors the entire process of the continuous longitudinal seam welding of tubes using a CO_2 laser. Its high-performance CMOS camera simultaneously records the welding point, the focal spot, and the weld seam. The camera is positioned almost coaxial with the laser beam and provides optimal lighting for each process step.

Actively monitored for exact results.

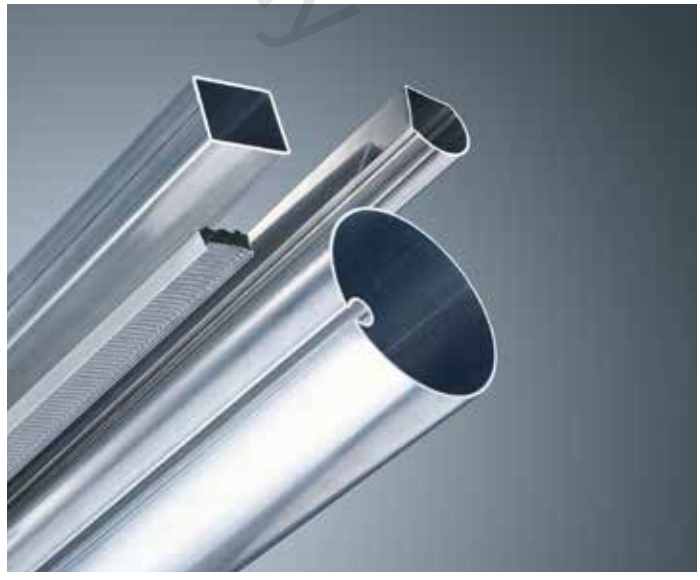
Before, during and after welding, SeamLine Pro continuously collects data for absolutely reproducible results. The distance between joint gap and welding point has been reduced to just 0.08 in (2 mm), increasing accuracy by a factor of thirty. When welding, the focal spot lies exactly over the joint gap. A particular advantage is that SeamLine Pro always adjusts the focal point automatically. After welding, the sensors check the weld height and width along with the edge offset. If the values do not correspond to the preset quality criteria, the system notifies the operator or stops to avoid producing rejects.

An invincible team.

Equipped with SeamLine Pro process sensor technology, the TruLaser Cell 1100 flexible beam guidance system can manufacture even critical components that have stringent quality requirements with the utmost precision. This is made possible by highly accurate seam position regulation, real-time measuring, and integrated quality assurance. With SeamLine Pro it takes less time to set up the system for the first time and less time to set it up again following maintenance work. SeamLine Pro can be used on its own and is connected to the machine's controls by a simple interface. The seam sensor system can also be operated remotely via TRUMPF's Telepresence connection.



Focusing optics for welding with the SeamLine Pro process sensor system.



Continuous welding of tubes and profiles.

TruLaser Cell Series 1000		
	TruLaser Cell 1100 Basic Edition	**TruLaser Cell 1100[1]**
Working range		
X axis	6 in.	12/20 in.
Q axis (additional axis)	2 in.	2 in.
Z axis	6 in.	12/20 in.
Positioning accuracy		
X axis	0.004 in.	0.04 in.
Q axis (additional axis)		0.002 in.
Z axis	0.004 in.	0.004 in.
Axis speed		
Simultaneous		1655 in/min
Axis X|Z		1181 in/min
Control		B+R Soft SPS
Dimensions		
Length	83 in.	106 in.
Width	48 in.	47 in.
Height	87 in.	110 in.
TRUMPF laser		
Max. laser power of TruFlow CO_2 laser	6000 W	12000 W
Max. laser power of solid-state laser		8000 W

[1] Technical data version Tube Compact with CO_2 laser.

Subject to alteration. Only specifications in our offer and order confirmation are binding.

TruLaser Station 5005

TruLaser Station 5005: Benefits at a glance.

1. Compact and ergonomic machine concept.
2. Easy, intuitive operation.
3. Cost-effective and flexible.

Compact and ergonomic workstation for laser welding.

The TruLaser Station 5005 is designed for welding small and medium-sized components. The compact laser workstation with a built-in dust collector has a footprint of under 11 ft² (1 m²). The machine is equipped with up to five axes. Various focusing optics, including scanner optics, can also be integrated. This ergonomic workstation can be operated from either a seated or standing position.

Easy, intuitive operation.

The new high-performance control unit is adapted to the TRUMPF interface and has a user-friendly design. Operation of the workstation is via touch screen. The camera for process monitoring comes standard and facilitates the setup and teach process. Different user levels increase process reliability for your processing tasks.

Cost-effective and flexible.

The TruLaser Station 5005 offers cost-effective entry into the world of laser welding with permanently low operating costs. Its large working area and the pneumatic and electrical interfaces provided enable easy integration of your fixture technology. With this compact laser workstation, you can weld mild steel, stainless steel, aluminum, non-ferrous metals, and even plastics – efficiently and reliably.

Equipped with scanner optics.

Seam welding a sensor.

Seam welding temperature-sensitive components, such as titanium pacemakers.

Seam welding sensitive electronic components, such as ultrasound sensors.

Spot welding a halogen lamp.

Spot welding a cell phone casing.

Plastics welding for tight, esthetic seams.

TruLaser Station 5005	
Working range	
X|Y|Z axis	12|12|20 in.
B axis	± 120°
C axis	n x 360°
Accuracy	
Repeat accuracy X|Y|Z	≤ 0.002 in.
Dimensions	
Width|Depth|Height	32|35|79 in.
TRUMPF laser	
Available solid-state lasers	TruPulse, TruFiber, TruDisk, TruDiode, TruMicro

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TruServices:

Service like no other.

Service from the very start.

Our around-the-clock service ranges from configuration planning to workflow optimization. And, it begins even before you decide on a TRUMPF laser system. We have established our Laser Application Centers in all major world markets where we test the feasibility of your desired applications and show you what our laser systems can do for your production process.

Let's go.

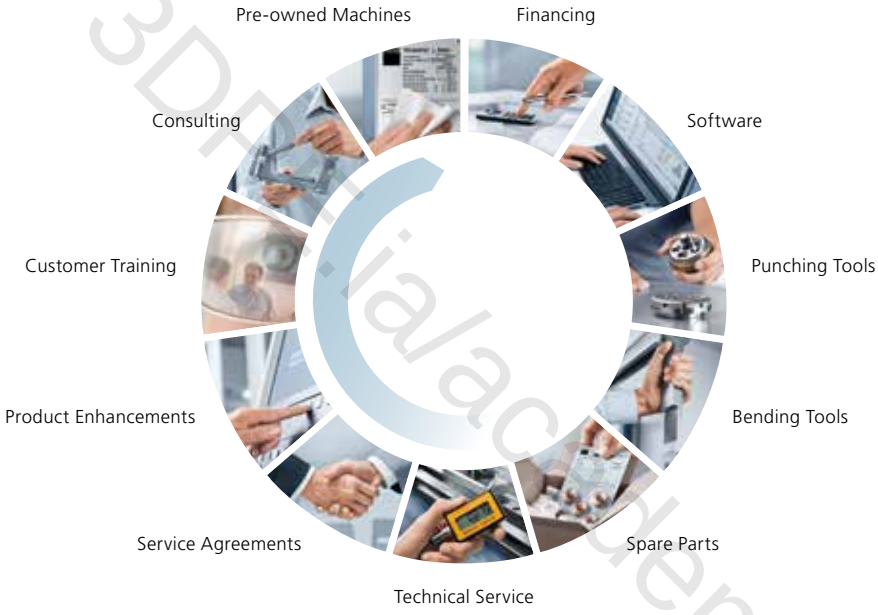
Your laser system is ready for operation almost immediately upon delivery. There are no interface problems because the laser, beam guidance, processing optics, programming, control, and automation components are all developed by TRUMPF.

Support around the clock.

We will support you during the entire life cycle of your system with our customized services. We will maintain the machine and upgrade it with the options you choose. Training is provided for you and your employees so that you can use your laser system to its fullest potential. Our service even includes optimizing the parameters of your machines on-site.

We keep downtime and service calls to a minimum because our specialists, with your approval, can access your system online by using remote diagnostics through our Telepresence. And, TRUMPF's award-winning spare parts logistics system, guarantees you the best spare parts availability, as well as the quickest delivery possible.

Throughout the life cycle of your TRUMPF system.



Regardless of the TRUMPF technology you use, you will always get the right service. TRUMPF Finance offers you individual financing solutions quickly and without a lot of paperwork. A service agreement is the ideal way of ensuring the best availability of your laser system. Should your requirements change, we have flexible upgrade options and technical innovations that will make your system even better. Our broad range of training courses with experienced trainers and hands-on practice will give you a head start in understanding and operating your system.

TRUMPF is certified according to ISO 9001:2008
(for further information see www.trumpf.com/en/quality)

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