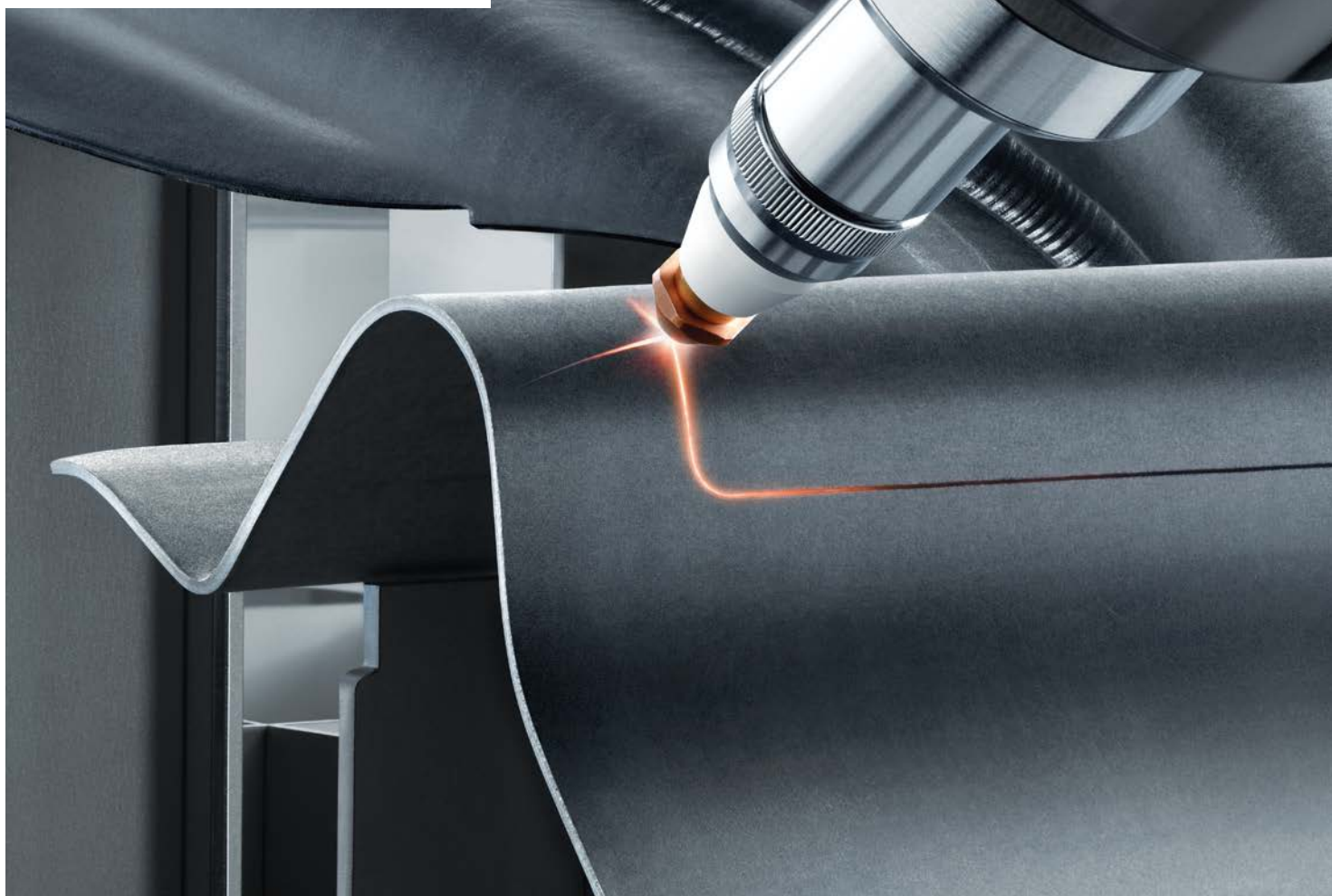


Laser systems:

Up to  
the challenge.



# Giving you the edge in laser technology.

## Contents

Giving you the edge in laser technology. _____	2
Why TRUMPF laser systems are captivating. _____	4
<b>TruLaser Cell 8030</b> _____	6
<b>TruLaser Cell Series 7000</b> _____	12
<b>TruLaser Robot Series 5000</b> _____	18
<b>TruLaser Cell 3000</b> _____	24
<b>TruLaser Cell Series 1000</b> _____	30
<b>TruLaser Station 5005</b> _____	38
TruServices: Service like no other. _____	42

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



Visit us on YouTube.  
[www.youtube.com/TRUMPFtube](http://www.youtube.com/TRUMPFtube)



### 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<sub>2</sub> or solid-state lasers.



### TruLaser Robot Series 5000

Robot systems with solid-state lasers for welding and cutting complex geometries for both large-scale series and small batch sizes.



### 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<sub>2</sub> 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.

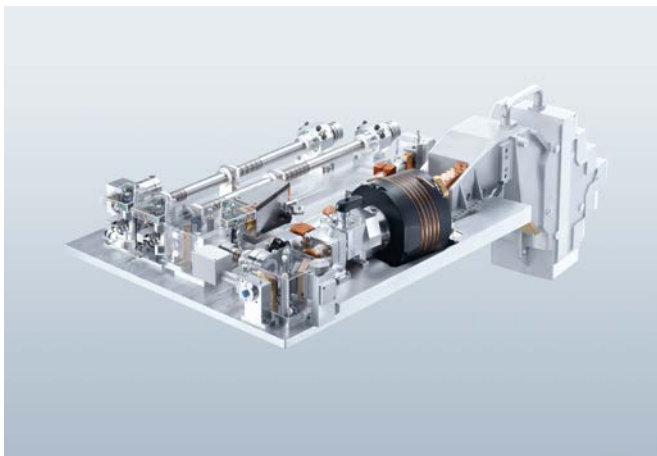
Laser cutting, laser welding and surface processing – there are few tools as versatile as the laser. For this reason, TRUMPF laser technology is used in many different industries. Whatever your processing needs or application, our lasers always provide stable parameters and reliable process results. 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<sub>2</sub> units, fast flow or diffusion cooled, pulsed, for high-speed cutting, laser deposition welding, or microprocessing.



TruDisk solid-state laser.



TruFlow CO<sub>2</sub> 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<sub>2</sub> 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 and guaranteeing you minimum cycle times. Its small footprint, short downtimes, and robust design with patented suction method make TruLaser Cell 8030 the industry's best-selling 3D machine worldwide. Customers benefit in particular from reduced investment costs (thanks to the modular design), from TruDisk 2000's lower energy consumption and from 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, upon which the loading and unloading area is completely separate, ensure maximum productivity and cost-effectiveness. Depending on your production requirements, you can use the rotary indexing table as a semiautomated 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: Now even better.*  
[www.trumpf.info/t3n62s](http://www.trumpf.info/t3n62s)



# TruLaser Cell 8030

## Superior energy efficiency.

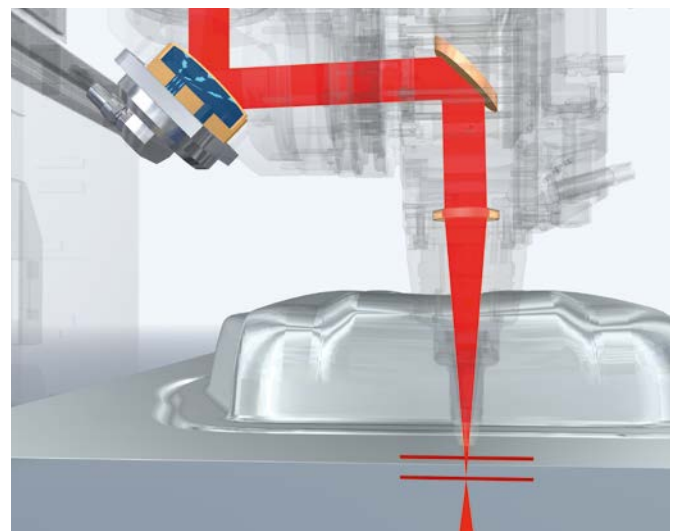
The compact TruLaser Cell 8030 is now also available with the TruDisk 2000 solid-state laser with 2 kW laser power. Its outstanding beam quality allows virtually identical machining times to those achieved by the tried-and-tested TruDisk 3001. In addition, the TruDisk 2000's lower power consumption and 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 semiautomated 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.

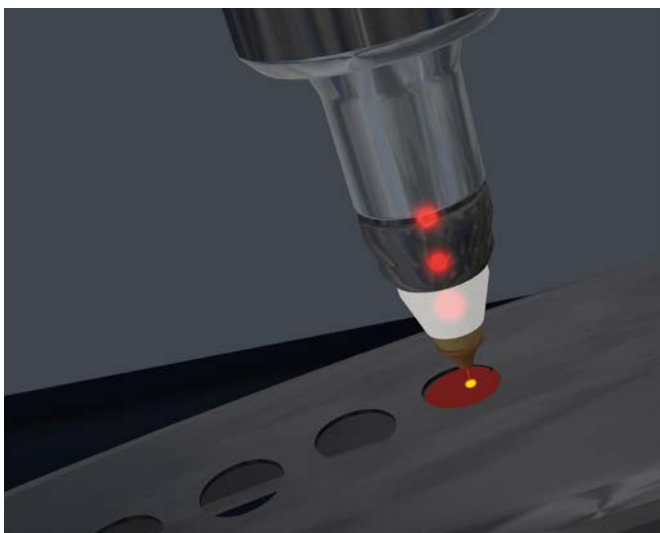


FocusLine – automatic adaption of the focal position.



## 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 machining time remaining for the component being worked on along with additional information about the status of the current manufacturing job.

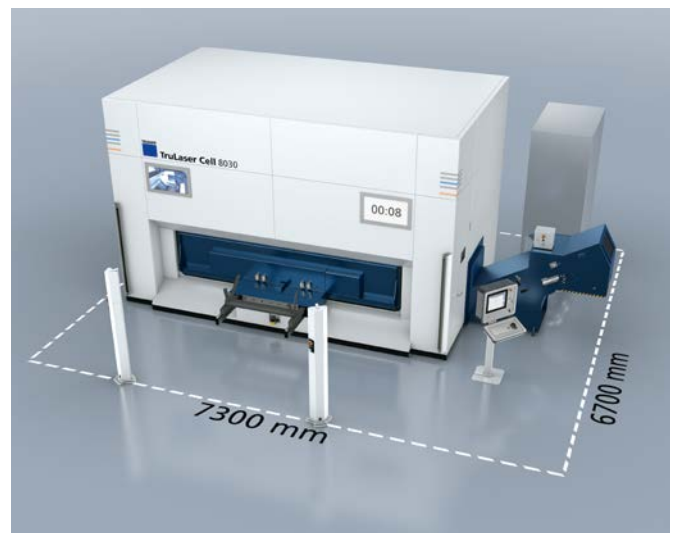


ObserveLine visual slug detection sensors.

## Compact footprint.

The TruLaser Cell 8030 takes up less than 50 m<sup>2</sup> 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 permits 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.



Compact footprint and optimum accessibility.



TRUMPF

TruLaser Cell 8030



00:07



TruLaser Cell 8030	
	TruLaser Cell 8030
<b>Working range</b>	
X Y Z axis	3000   1300   600 mm
B axis	± 135°
C axis	n x 360°
<b>Axis speed</b>	
X Y Z linear axis	100 m/min
B C axis	90 1/min
<b>Axis acceleration</b>	
Simultaneous	17.3 m/s <sup>2</sup>
X Y Z axis	10   10   10 m/s <sup>2</sup>
B C axis	200   100 rad/s <sup>2</sup>
<b>Positioning range<sup>[1]</sup></b>	
Linear axes X Y Z	0.03 mm
Rotating axes B C	0.005°
<b>Positioning deviation<sup>[1]</sup></b>	
Linear axes X Y Z	0.08 mm
Rotating axes B C	0.015°
<b>TRUMPF lasers</b>	
Available lasers	TruDisk 2000, TruDisk 3001, TruDisk 4001
Laser power	2000–4000 W
Beam quality	2–4 mm · mrad
<b>Rotary changer   Rotary indexing table</b>	
Diameter	4000   4800 mm
Workstations	2   3
Max. load per side	300 kg
Time to completely rotate the rotary changer	2.3 s
Typical rotation time <sup>[2]</sup>	ca. 5 s

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

<sup>[2]</sup> 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.



*TruLaser Cell Series 7000 in action.*  
[www.trumpf.info/k2xyul](http://www.trumpf.info/k2xyul)

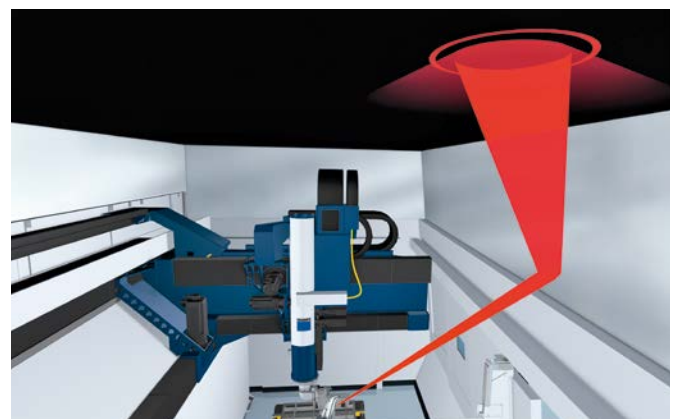
## Modular design and customized retrofit options.

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<sub>2</sub> 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.

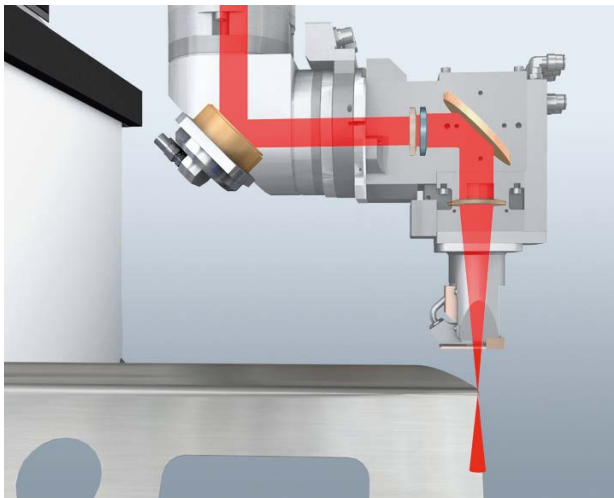


Two-station operation: loading and unloading while processing.



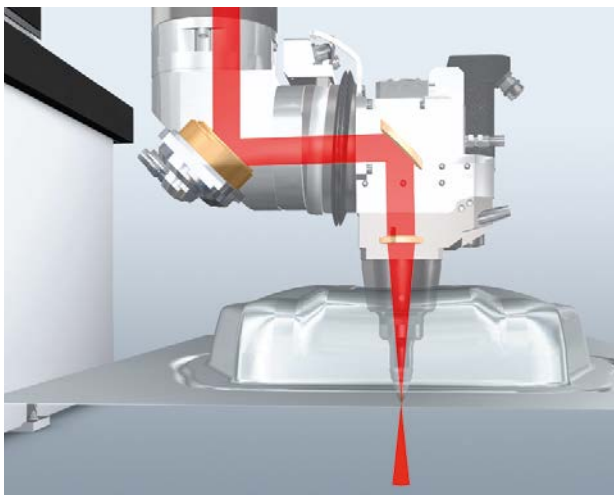
Two-station operation with a solid-state laser: highly reflective side panels and an absorbent canopy.

## TruLaser Cell Series 7000



### 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<sub>2</sub> 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.

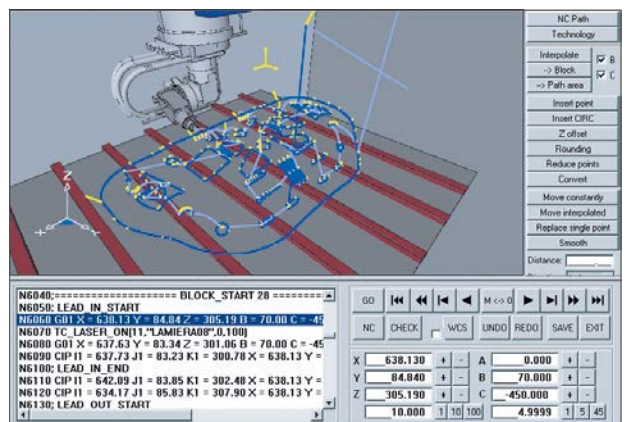
Welding or cutting: fast switching between processes with 2in1 fiber.

## 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 the 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 working 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 reestablish a precise connection. The LensLine function monitors the focusing lens and disconnects the laser before it emits any contaminating vapor, preventing soiling 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 as 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
<b>Working range</b>			
X axis	4000 mm	2000 mm	650 mm
Y axis	1500 mm/2000 mm	1500 mm/2000 mm	1500 mm/2000 mm
Z axis	750 mm	750 mm	750 mm
B axis	± 135°	± 135°	± 135°
C axis	n x 360°	n x 360°	n x 360°
Dynamic cutting optics	± 10 mm	± 10 mm	± 10 mm
<b>Axis speed</b>			
Simultaneous	173 m/min	173 m/min	173 m/min
X Y Z linear axis	100 m/min	100 m/min	100 m/min
B C axis	90 min <sup>-1</sup>	90 min <sup>-1</sup>	90 min <sup>-1</sup>
<b>Axis acceleration</b>			
Simultaneous	16 m/s <sup>2</sup>	16 m/s <sup>2</sup>	16 m/s <sup>2</sup>
X Y Z linear axis	9 10 10 m/s <sup>2</sup>	9 10 10 m/s <sup>2</sup>	9 10 10 m/s <sup>2</sup>
B C axis	200 100 rad/s <sup>2</sup>	200 100 rad/s <sup>2</sup>	200 100 rad/s <sup>2</sup>
Dynamic cutting optics	40 m/s <sup>2</sup>	40 m/s <sup>2</sup>	40 m/s <sup>2</sup>





#### TRUMPF laser

Max. laser power of TruFlow CO <sub>2</sub> laser	15000 W
Max. laser power of TruDisk solid-state laser	6600 W

#### Precision<sup>[1]</sup>

Lowest programmable path measurement	0.001 mm
--------------------------------------	----------

#### Max. repeatability<sup>[2]</sup>

Linear axes X Y Z	0.03 mm
Rotation axes B C	0.005°

#### Max. position deviation<sup>[2]</sup>

Linear axes X Y Z	0.08 mm
Rotation axes B C	0.015°

<sup>[1]</sup> 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.

<sup>[2]</sup> Pure mechanical precision without control compensation, measured in accordance with VDI 3441 through the total length of axis travel. Subject to alteration. Only specifications in our offer and order confirmation are binding.

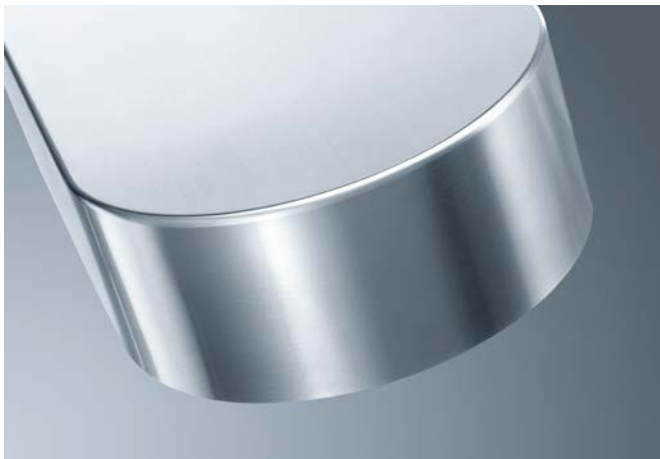
## TruLaser Robot Series 5000

Welding, cutting – a laser system from the TruLaser Robot Series 5000 can do it all: from low-volume to high-volume jobs, and components of any size or geometry. With the TruLaser Robot, you acquire a modular turnkey system from a single source. The main components are the robot, laser, processing optics, safety enclosure, and positioning units.

TruLaser Robot 5020 Basic Edition:  
Benefits at a glance.

- 1 Cost-effective thanks to low operating costs.
- 2 Compact footprint.
- 3 Designed for laser welding.





Heat conduction welding for perfect visible weld seams.



Laser welded cover.

## Cost-effective thanks to lower operating costs.

The TruLaser Robot 5020 Basic Edition is TRUMPF's compact robot system for cost-effective entry into the world of laser welding, even with small batch sizes. The entry-level solution features a TruDiode direct-diode laser – with an efficiency of 40%, this laser offers ideal conditions for achieving low operating costs. The reduced investment costs and permanently low operating costs guarantee even greater cost-effectiveness when laser welding.

## Compact footprint.

A complete robot system that will fit in any factory: The TruLaser Robot 5020 Basic Edition's external dimensions are only 4,250 x 3,650 mm. The overall system's small footprint is also due to its next-generation energy-efficient diode lasers, which combine high laser power with very good beam quality. The TruLaser Robot 5020 Basic Edition, laser, and peripheral devices together take up only 24 m<sup>2</sup>.

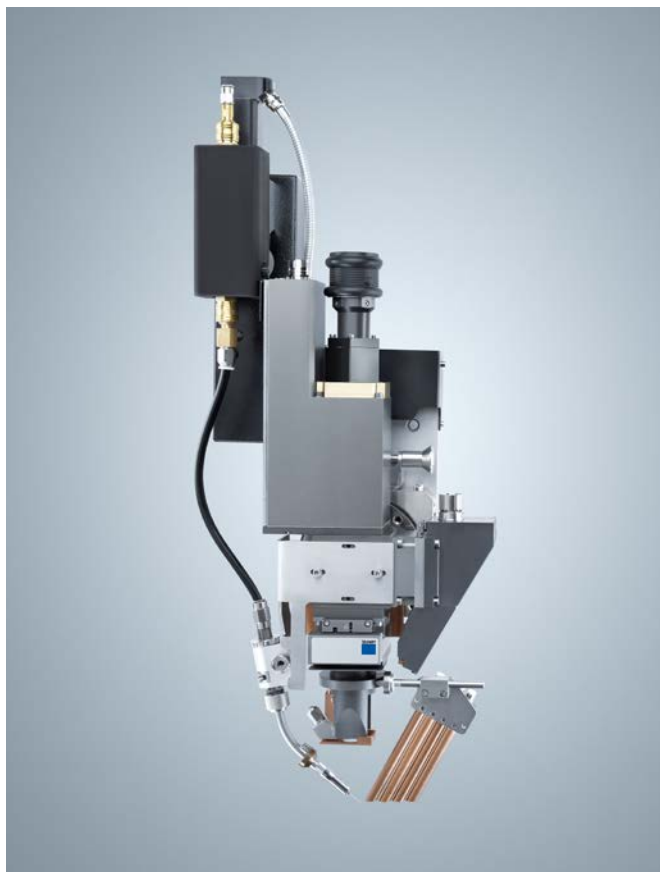
## Designed for laser welding.

TruLaser Robot 5020 Basic Edition was designed specifically for newcomers to automated laser welding. Thanks to the diode laser's excellent beam quality, applications such as the deep penetration and heat conduction welding of mild steel, stainless steel, and aluminum can be performed on sheets up to 4 mm thick, with top-quality results. The rotate-tilt positioner permits full 3D processing of components – with good component accessibility. Motorized focusing allows you to switch between heat conduction and deep penetration welding from the program controls. The welding wire option even enables you to weld challenging materials such as series 6000 aluminum alloys, or else you can use it to bridge gaps.

# TruLaser Robot Series 5000

## TruLaser Robot 5020: Benefits at a glance.

- 1 **Lowest component costs – even with small batch sizes.**
- 2 **Turnkey and modular.**
- 3 **User-friendly control unit and software.**



Focusing optics with TeachLine, optical seam sensor system and welding wire.

## Minimum costs per component – for small batch sizes and large-scale series production.

The TruLaser Robot 5020 guarantees the lowest operating costs and minimum costs per component – from small unit volumes to large-scale series. It is ideally equipped to process complex geometries thanks to various automation solutions.

Using the TeachLine option, you can considerably increase machine capacity. This optical seam sensor automatically corrects workpiece and fixture tolerances. This enables you to shorten programming times, reduce setup costs, and obtain reproducible processes. Quality control and process documentation are also possible.

Another advantage is that it is easy to integrate the TruLaser Robot 5020 into a TRUMPF LaserNetwork and set up smart connections with other machines and systems. This allows you to get the most out of the networked laser machine. At the same time, significantly reduced investment costs make operation particularly cost-effective. TRUMPF's LaserNetwork gives you relatively inexpensive access to new technologies such as laser welding, helping you to be flexible and well prepared for the future.



*TruLaser Robot 5020: Excellence in sheet metal.*  
[www.trumpf.info/gzf827](http://www.trumpf.info/gzf827)

## Turnkey and modular for greater flexibility.

The TruLaser Robot 5020 is a modular system. To achieve optimal results, we assemble your machine according to your requirements from proven standard components. For processing large-scale series you can use the automatic rotary changer. For easy adjustment to different tasks via plug-and-play, we offer technology packages for cutting, welding, deposition welding, and remote welding.

We also support you with fixture construction. Our experienced engineers can help you to adapt the design of your components to laser processing and optimize all elements of your process line, from 2D cutting and bending to laser welding.

## Convenient and easy to use.

The robot in the TruLaser Robot has a standard control that we have upgraded with user-friendly software components. The robot, positioning unit, laser, and processing optics can be controlled using a manual control unit or computer. Our TruTops Cell programming system allows you to import and edit common 3D CAD data and automatically generate robot programs.

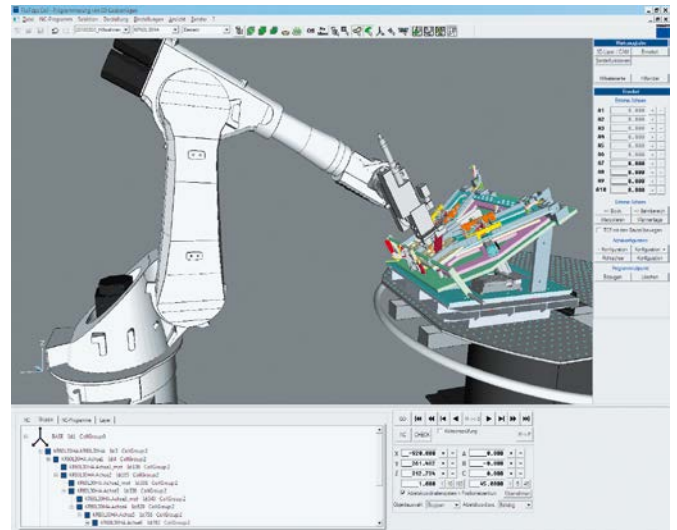
You can carry out simulations to ensure component accessibility and detect collisions in advance. The ability to program while the machine is working on jobs considerably increases system availability.



TruLaser Robot 5020: Modular clamping device.  
[www.trumpf.info/ujlp65](http://www.trumpf.info/ujlp65)



TruLaser Robot 5020 with automatic rotary changer.



External programming with TruTops Cell.



TruLaser Robot	TruLaser Robot 5020 Basic Edition	TruLaser Robot 5020
<b>Workpiece positioner</b>		
<b>Rotate/tip positioner</b>		
Number of axes	2	2
Working range of rotating axis	± 190°	± 190°
Working range of tilting axis	± 90°	± 90°
Operating mode	automatic	automatic
Working height	850 mm	850 mm
Max. load	400 kg	400 kg
Repetition accuracy with radius of 500 mm	± 0.1 mm	± 0.1 mm
<b>Manual rotary table</b>		
Number of axes		1
Working range		± 178°
Working height		800 mm
Max. load per side		250 kg
Operating mode		semiautomatic, pneumatic support
<b>Robot</b>		
Number of axes	6	6
Repeat accuracy	± 0.05 mm	± 0.05 mm
Bearing load	30 kg	30 kg
<b>TRUMPF laser</b>		
Available solid-state lasers	TruDiode	TruDisk
Maximum laser power of the solid-state laser	4000 W	16000 W

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

# 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 Very good user-friendliness and 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 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.



*TruLaser Cell 3000: Uniquely universal.*  
[www.trumpf.info/3b8eqg](http://www.trumpf.info/3b8eqg)



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. Thanks to 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.

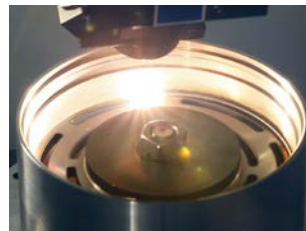
The VisionLine image processing system automatically recognizes component features such as edges or holes, and reports the corrections needed as regards positioning of the work-piece. This ensures optimal processing results and maximum process reliability even for tight-tolerance workpieces. For common laser types ideal cutting parameters are already stored as standard 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.



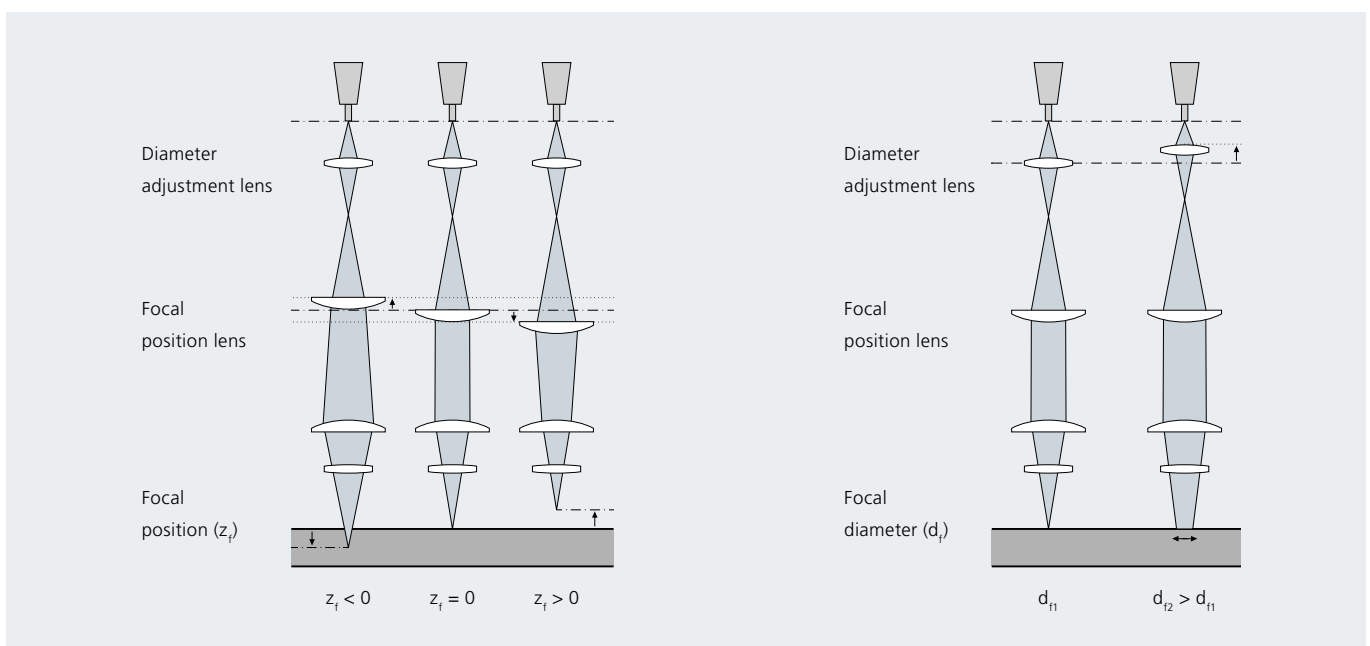
Laser cutting a seatbelt panel.



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.

## 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.



Laser cut crimp contacts and spring elements.



A selection of different laser cut materials.

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.



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.



*TruLaser Cell 3000:  
In operation at  
LICOS Trucktec GmbH.  
[www.trumpf.info/dkl7wq](http://www.trumpf.info/dkl7wq)*



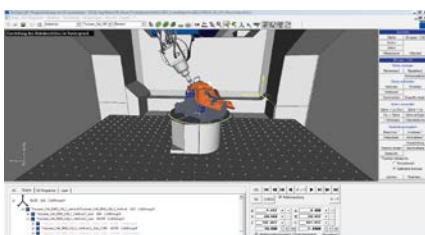
*TruLaser Cell 3000:  
Automated laser cutting  
of knives at Zwilling.  
[www.trumpf.info/f047gl](http://www.trumpf.info/f047gl)*



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 suitable 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. Thanks to 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.

Thanks to the ease of programming you get from the initial design to the 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



## TruLaser Cell 3000

### Working range

X Y Z axis	800   600   400 mm
B axis	± 135°
C axis	n x 360°
Max. workpiece size 2D	800 mm x 600 mm
Max. processing range 3D	Ø 600 mm x 220 (520) <sup>[1]</sup> mm

	Axis speed	Axis acceleration
Simultaneous	85 m/min	17 m/s <sup>2</sup>
X Y Z axis	50 m/min	10 m/s <sup>2</sup>
Rotating axis B	120 min <sup>-1</sup>	130 rad/s <sup>2</sup>

### Positioning accuracy<sup>[2]</sup>

X Y Z axis	0.015 mm   0.005 mm <sup>[3]</sup>
B axis	0.03°

### Rotary changer

Diameter of rotary table	1070 mm
Max. load per side	95 kg
Rotation time	3.1 s

### Dimensions

Width   Depth   Height	1600   2840   2645 mm
------------------------	-----------------------

### TRUMPF laser

Max. laser power	8000 W
Available solid-state lasers	TruPulse, TruFiber, TruDisk, TruDiode, TruMicro

<sup>[1]</sup> With W1 axis.

<sup>[2]</sup> Measurement data recorded at ToolCenterPoint (TCP) of processing optics.

<sup>[3]</sup> High Accuracy axis system.

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

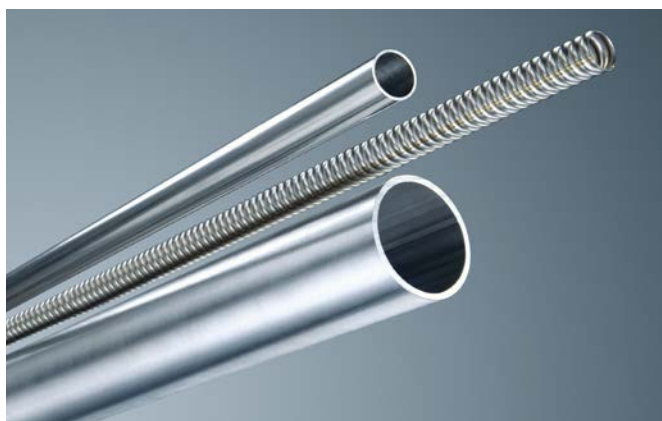
## TruLaser Cell Series 1000

TruLaser Cell 1100 Basic Edition:  
Benefits at a glance.

- 1 Robust, easy and fast to integrate.
- 2 Minimal costs per meter 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. Thanks to the two-part machine frame and the pre-assembled and preadjusted laser, you can set up the system in no time. The robustness and resistance to wear of the machine's components are particularly impressive. Water cools the main components of the CO<sub>2</sub> 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 meter 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 with only 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 permit 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 thanks 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 100 m/min. With the encapsulated beam guidance and the water-cooled copper mirror, the systems are particularly robust and reliable.



## Customized.

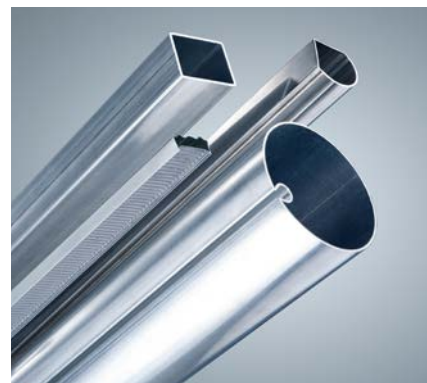
The system is individually configured to meet your requirements in terms of strokes or linear axes, working height or travel area. You can even use it as a mobile system. It features CO<sub>2</sub> lasers from the TruFlow Series and solid-state lasers from the TruDisk and TruDiode Series as the laser 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 thanks 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 by means of proportional valves, permitting 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 thanks to 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.



*TruLaser Cell Series 1000: Continuous productivity.*  
[www.trumpf.info/9aiof0](http://www.trumpf.info/9aiof0)

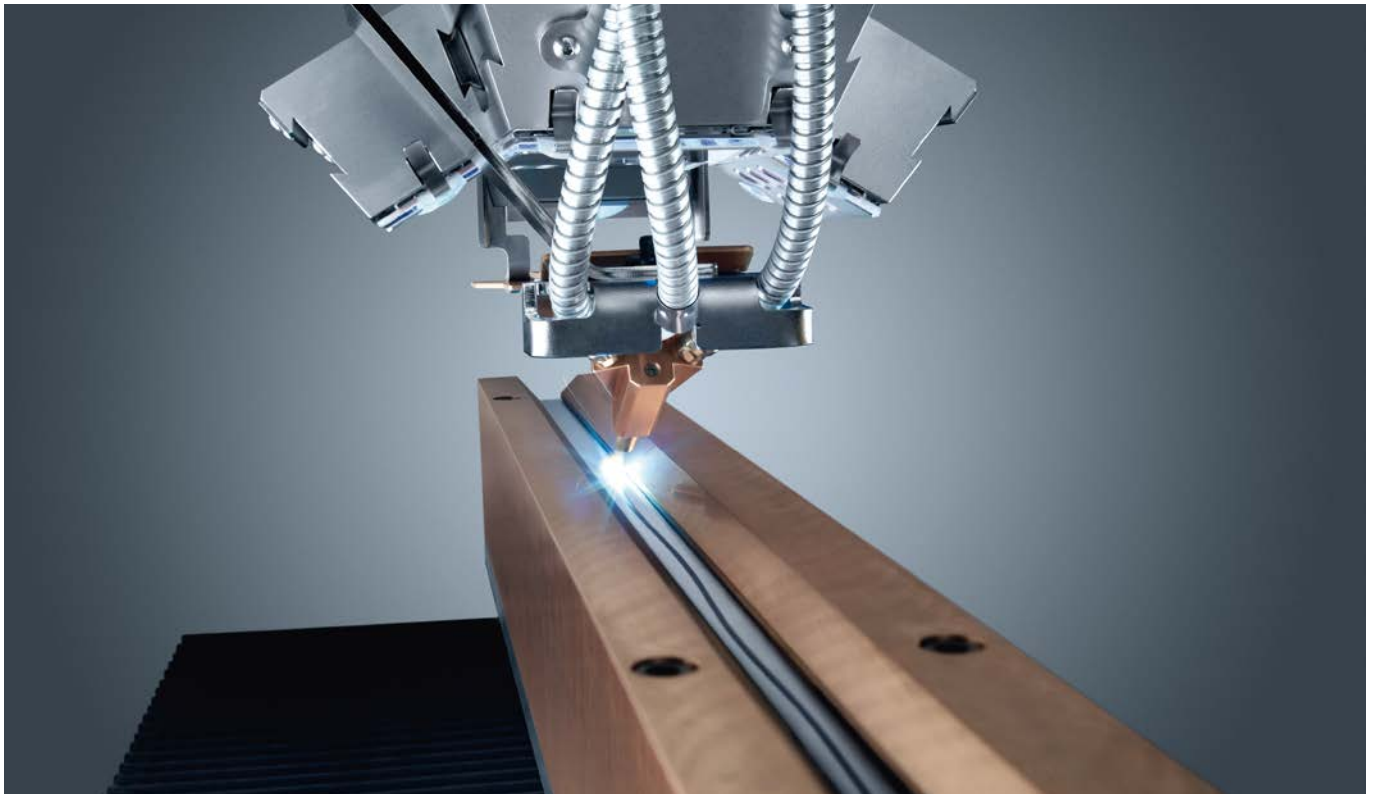
# SeamLine Pro

SeamLine Pro:  
Benefits at a glance.

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

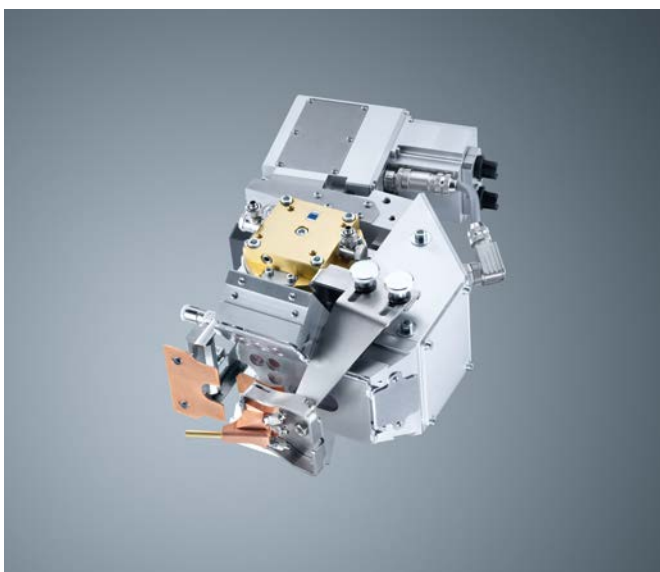
Keeping track of everything while welding.

With the SeamLine Pro process sensor system, adjustment 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<sub>2</sub> 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.

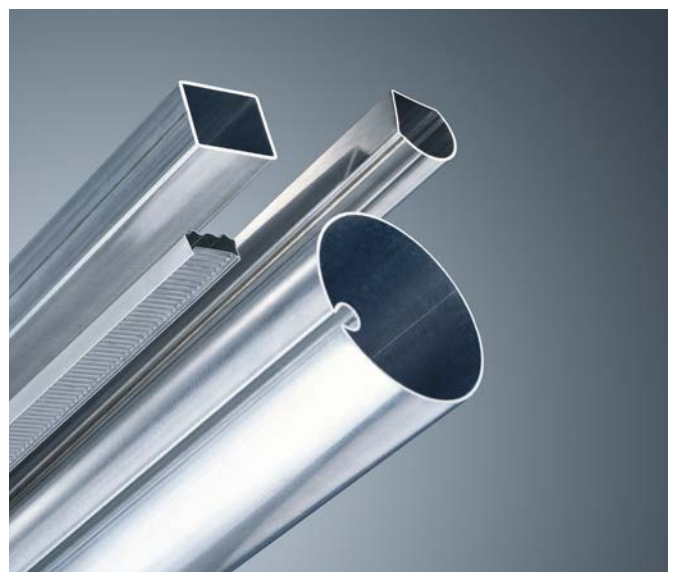
Before, during and after welding, SeamLine Pro continuously collects data for absolutely reproducible results. The distance between joint gap and welding point has been reduced to just 2 mm, increasing accuracy by a factor of thirty. When welding, the focal spot lies exactly over the joint gap. A particular 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, then the system notifies the operator or stops to avoid producing rejects.



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

## 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. Thanks to 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.



Continuous welding of tubes and profiles.



<b>TruLaser Cell Series 1000</b>		
	<b>TruLaser Cell 1100 Basic Edition</b>	<b>TruLaser Cell 1100<sup>[1]</sup></b>
<b>Working range</b>		
X axis	150 mm	300/500 mm
Q axis (additional axis)	50 mm	50 mm
Z axis	150 mm	300/500 mm
<b>Positioning accuracy</b>		
X axis	0.01 mm	0.1 mm
Q axis (additional axis)		0.05 mm
Z axis	0.01 mm	0.1 mm
<b>Axis speed</b>		
Simultaneous		42 m/min
Axis X Z		30 m/min
Control		B+R Soft SPS
<b>Dimensions</b>		
Length	2100 mm	2700 mm
Width	1220 mm	1200 mm
Height	2210 mm	2800 mm
<b>TRUMPF laser</b>		
Max. laser power of TruFlow CO <sub>2</sub> laser	6000 W	12000 W
Max. laser power of solid-state laser		8000 W

<sup>[1]</sup> Technical data version Tube Compact with CO<sub>2</sub> 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 1 m<sup>2</sup>. 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 as standard and facilitates the setup and teach process. Different user levels increase process reliability for your processing tasks.



*TruLaser Station 5005:  
The easy way into laser welding.  
[www.trumpf.info/fb2sm7](http://www.trumpf.info/fb2sm7)*



*TruLaser Station 5005: Laser welding.  
[www.trumpf.info/rd3svu](http://www.trumpf.info/rd3svu)*

## Cost-effective and flexible.

The TruLaser Station 5005 offers you 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 permit 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.





<b>TruLaser Station 5005</b>	
<b>Working range</b>	
X Y Z axis	300 300 500 mm
B axis	± 120°
C axis	n x 360°
<b>Accuracy</b>	
Repeat accuracy X Y Z	≤ 0.05 mm
<b>Dimensions</b>	
Width Depth Height	800 900 2000 mm
<b>TRUMPF laser</b>	
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 planning your configuration to optimizing your workflow. 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. Thanks to TRUMPF's award-winning spare parts logistics system, we can guarantee you the best availability of spare parts, and deliver all our products to you as quickly as possible.

Throughout the life cycle of your TRUMPF system.



Regardless of the TRUMPF technology you use, you will always get the right service. TRUMPF Financing 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/company/quality](http://www.trumpf.com/en/company/quality))

Ident no. 0376231\_201410\_F – Specifications subject to alteration