

.World Premiere

Progressive. Like You.
The new fiber laser
TruFiber P

The versatile laser
for all your welding
or cutting processes



04

Full package solution

Perfect solution with matching optics,
sensors and services – all from one
trusted supplier

01

High process stability

Constant process quality –
from start of day, throughout the year

02

Extensive control options

Full control over the process with flexible
software and hardware interfaces for your system

03

Highly reliable laser source

Designed for many years of operation
with virtually no maintenance

05

Great investment performance ratio

A laser processing solution with many
benefits – at a price to optimize your
investment



Industry 4.0 ready!

01

High process stability

Constant process quality –
from start of day, throughout the year

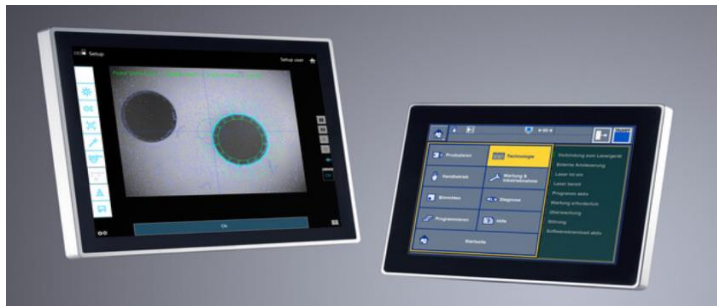
Today's demanding applications require consistent results throughout the product lifetime. The TruFiber P laser inherently demonstrates class-leading temporal and spatial stability of the output beam. For processes with greater sensitivity, active power control gives you the ultimate process stability: whether short-term or long-term – the production quality is maintained.

02

Extensive control options

Full control over the process with flexible
software and hardware interfaces for your system

TruControl ensures that you are able to make full use of your laser capacity. Statistics allow evaluation and optimization of the laser utilization. Linked sensors provide information about the laser status – letting you know your process is working optimally and staying that way! Additionally, you benefit from remote services that increase the overall availability of your laser. TRUMPF lasers enable control via all common fieldbus systems, which makes them convenient and simple to integrate into systems – a great benefit for the integrator and end user.

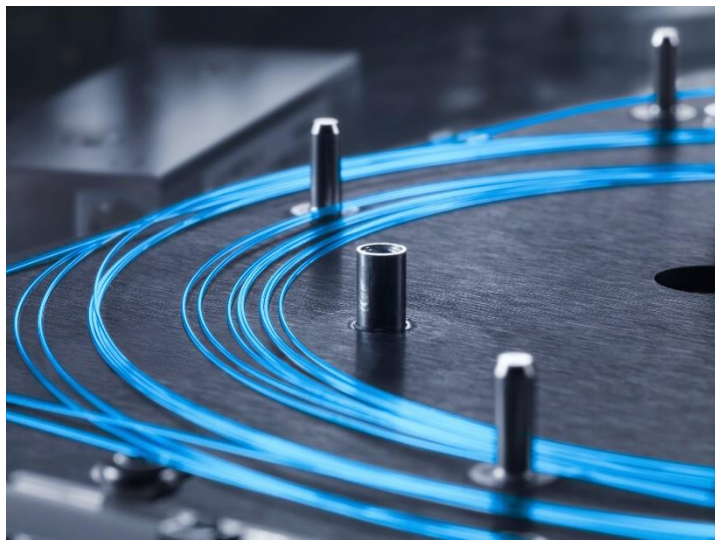


03

Highly reliable laser source

Designed for many years of operation with virtually no
maintenance

The TruFiber P laser solutions are designed for today's demanding industrial production processes where high uptime and high duty cycle utilisation are the norm. Robust design of all the sub-systems of the laser allow it to operate reliably in the environments of these industries. Class leading in regard to their design life-time, the performance stability over many years of the TruFiber P lasers is based on proven technologies from across our laser portfolio.



TRUMPF laser DNA

TRUMPF is a technology leader for all aspects of industrial lasers and solutions for their applications. You can benefit from our in-depth experience gained over 35 years. Our worldwide network of laser application centers and service support brings our laser know-how into your facility. The TRUMPF team is dedicated to finding the right laser source and solution package for your application needs.

04

Full package solution

Perfect solution with matching optics, sensors and services – all
from one trusted supplier

Benefit from a laser solution with matched features that enhances the value of your laser and reduces integration effort. Select from a range of scanner optics for remote processing, focus heads for welding and cutting, and sensors to enhance the process consistency and reliability. Alternatively, complete workstations are available, some with features tailored for specific processes. For added peace of mind, benefit from application consulting support and link into the comprehensive global service and technical support.

05

Great invest performance ratio

A laser processing solution with many benefits – at a price to
optimize your investment

The TruFiber P series is part of a wider family of industrial fiber lasers, each based on the same standardized technology platform bringing economies of scale to the platform. Nevertheless each family member provides choice of the laser features that are right for your needs, providing an excellent process result. Your investment is matched to your application needs for an optimized manufacturing scenario. Furthermore all the benefits of a comprehensive TRUMPF solution can be realised with all of our products.

Progressive. Like you. The new fiber laser TruFiber P

Whether it's for welding or cutting, our CW fiber lasers are a perfect partner for a wide range of manufacturing applications across many market sectors, such as automotive (including e-mobility), medical, consumer or aerospace.

With TruFiber P you get a capable and reliable all-rounder with TRUMPF laser DNA.



E-Mobility Battery Production

Versatile laser products matched to high volume battery manufacturing

With both single mode and multi mode variants, the TruFiber P lasers can be used for many of the individual processes within the production of Li⁺ batteries for both e-mobility and consumer products. The integrated back reflection protection of these lasers make them an ideal tool for reliable high volume welding of reflective Aluminium and Copper in bus-bars, soft-connectors, seal pins and other components. Combining with a TRUMPF PFO scan head solution, unleashes the full potential of the laser for these kind of applications.



Medical Device Manufacturing

Precise manufacturing of medical applications

Nowhere is precision more important than in medical technology. The TruFiber P family provides single mode, thin fiber, or high beam quality multi mode laser radiation to match to your precision cutting and welding applications. The precise temporal beam modulation from the integrated TruControl system allows fine control of the heat input to the workpiece producing high-quality, reproducible weld seams without post-processing. Across a range of medical devices, for example endoscopic instruments, stents or hypo-tubes, the TruFiber P is an optimized manufacturing partner.



Automotive Remote Welding

High speed, cost effective welding of 3D parts

The superior beam quality from the high power TruFiber P lasers allows smaller mirror sizes to be used in the scan head for high-speed operation whilst providing a large scan area, high quality processing and ease of access for welding of three-dimensional parts. For larger areas the robot arm movement is synchronized with the scan head to nearly eliminate dead time during the process cycle.



Laser Metal Deposition (LMD)

Tailored surface treatment and part repair

Laser Metal Deposition (LMD) is an additive manufacturing process that creates high-quality coatings and claddings on components. This also allows the repair of high quality components by building up damaged and worn surfaces. The laser provides a localised, precise heat source to melt the filler material (powder or wire) so that it bonds tightly to the surface of the part. The stability and accuracy of the laser process minimises the need for mechanical finishing. A TruFiber P multimode high-power laser, in combination with matching focusing optics and a special LMD nozzle, forms the basis for a versatile LMD system.



Additive Manufacturing (LMF)

Metal 3D printing with single mode fiber laser

Laser Metal Fusion (LMF) is an additive manufacturing process building up parts gradually layer by layer. Using a high-speed scan head to direct the laser beam to selectively and precisely melt the metal on a powder bed, complex parts are created with high accuracy. Various industries such as medical, dental, aerospace and automotive are benefitting from this 3D printing. The high temporal and spatial stability of the single mode TruFiber P lasers make them the ideal tool for the metal laser sintering process.





TruFiber P

.PREVIEW

Product variants TruFiber P		TruFiber 500 P	TruFiber 1000 P	TruFiber 1500 P	TruFiber 2000 P
Laser power (at delivery fiber output)	W	500	1000	1500	2000
Power stability (over 8 hours*)	%	±0.5 % at 100 % of nominal laser power			
Adjustable power range	%	2 % - 100 % of nominal laser power			
Beam delivery fiber diameters and Beam quality (typical M ² or BPP values)		Single Mode: M ² <1.3 50 µm: 2.1 mm.mrad 100 µm: 3.3 mm.mrad			
Wavelength	nm	1071			
Dimensions (width x height x depth)	mm	Small Cabinet : 448 x 525 x 971			
Cooling water temperature ranges	°C	18 – 30			
Ambient temperature in operation	°C	5 – 45			
Wall plug efficiency	%	32%			
Electrical supply input		380 V – 460 V, 50 – 60 Hz, 3P+PE			
Matching optics		BEO D70, BEO D50, PFO33-2, PFO20			
Optional features		Active Power Control, Remote Service, Condition Monitoring			

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Product variants TruFiber P		TruFiber 3000 P	TruFiber 4000 P	TruFiber 6000 P
Laser power (at delivery fiber)	W	3000	4000	6000
Power stability (over 8 hours*)	%	±0.5 % at 100 % of nominal laser power		
Adjustable power range	%	2 % - 100 % of nominal laser power		
Beam delivery fiber diameters and Beam quality (typical BPP values)		50 µm: 2.1 mm.mrad 100 µm: Standard = 4.0 mm.mrad, Enhanced = 3.3 mm.mrad 200 µm: 8 mm.mrad		
Wavelength	nm	1071		
Dimensions (width x height x depth)	mm	Standard Cabinet: 600 x 1000 x 1146		
Cooling water temperature ranges	°C	18 – 30		
Ambient temperature in operation	°C	5 – 45		
Wall plug efficiency	%	32%		
Electrical supply input		380 V – 460 V, 50 – 60 Hz, 3P+PE		
Matching optics		BEO D70, PFO 33-2		
Optional features		Active Power Control, VariMode – dynamic beam quality switching, Remote Service, Condition Monitoring		

*With option Active Power Control (APC), ±1% without APC

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