



TruFiber P – fiber laser
versatility defined

Make your vision
come true



High process stability

The fiber lasers of the TruFiber P series cover the power range from 500 W to 6 kW. Due to the choice of available fiber diameters and beam qualities, including single mode up to 2 kW, these lasers are well matched to the requirements of many different applications. The active power control option provides excellent reproducibility during each day and over many years.

Complete range of solutions

Benefiting from perfectly matched components, these lasers offer much reduced integration effort. We offer you a wide range of focusing optics for welding and cutting, scanner optics for remote processing and sensors for process monitoring. Up to 2 kW, flexibility is increased with choice of D-type or Q-type fiber terminations.

Fully reliable and versatile

TruFiber P lasers are designed for demanding production processes with high operating duty cycles. The rugged design ensures reliable operation in any industrial environment.

Variety of control options

TruControl allows you to make perfect use of the capabilities of the TruFiber P lasers. The control enables optimum operation of the laser linked together with its optics and sensor system. All data is recorded synchronously and can be output via various interfaces and used for remote support at the customer's request.

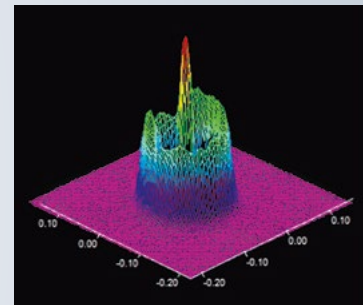
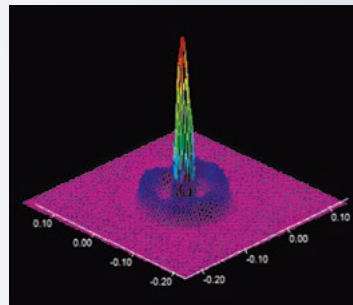
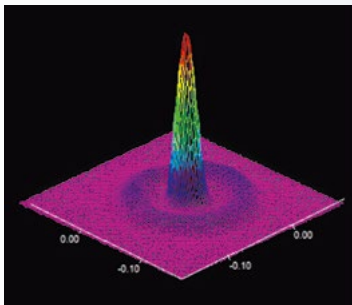
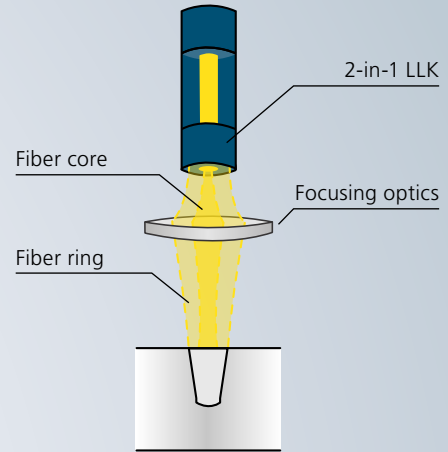
High-quality process results

BrightLine Mode gives you maximum flexibility in the beam profile. Due to the combination of different beam qualities from the core and ring beams, the weld seams are of particularly high quality. Even at higher feed rates, the processes remain stable with little spatter and consistent results. Less spatter prolongs the durability of the fixture and the optics, reducing maintenance interventions.

With TRUMPF BrightLine Mode technology, materials such as mild steel, stainless steel and even copper and aluminum can be welded virtually spatter-free.

Patented TRUMPF 2-in-1 LLK

- Use of a 2-in-1 LLK with single-mode core and multi-mode ring
- Variable beam profile for multi-kW fiber lasers with robust, permanently spliced laser light cable (LLK)
- Responsive, dynamic adjustment of the power distribution in the ring and core of the laser light cable



BrightLine Mode intensity distribution in focus: Increase in laser power in the fiber ring (from left to right).

Battery production for e-mobility



The single mode and multimode variants of the TruFiber P lasers are ideally suited for numerous processes in the production of lithium-ion batteries for e-mobility and consumer goods.

Medical technology



The TruFiber P series offers single mode and multimode lasers with high beam quality. Thus the right laser is available for almost all your fine cutting and fine welding applications.

Remote welding of automotive parts



When used with scanner optics, the excellent beam quality of the fiber lasers enables both high processing speeds and large scanning areas.



Technical data

TruFiber P product variants		TruFiber 50x P	TruFiber 100x P	TruFiber 150x P	TruFiber 200x P
Laser power (at light cable output)	W	500	1000	1500	2000
Long-term power stability (over 8 hours ^[1])	%	± 0.5 (at 100% rated laser power)			
Adjustable power range	%	2 to 100			
Diameter of laser light cable (LLK) and beam quality (typical M ² or BPP values)		Single mode: x = 0: M ² < 1.3 Multi mode: x = 0: 50 µm: 2.1 mm·mrad x = 1: 100 µm: 3.3 mm·mrad			
Wavelength	nm	1071			
Dimensions (W x H x D)	mm	448 x 520 x 840			
Cooling water temperature ranges	°C	18–30			
Ambient temperature during operation	°C	5–45			
Voltage supply input		380–460 V, 50–60 Hz, 3P+PE			
Matching focusing optics		BEO D50, BEO D70, PFO 20, PFO 33			
Selected options		Active power control, extended ambient conditions, interface for intelligent optics, VisionLine interface, diverse field bus interfaces, OPC UA, Remote Services, Condition Monitoring, QDS			

TruFiber P product variants		TruFiber 300x P	TruFiber 400x P	TruFiber 600x P
Laser power (at light cable output)	W	3000	4000	6000
Long-term power stability (over 8 hours ^[1])	%	± 0.5 (at 100% rated laser power)		
Adjustable power range	%	2 to 100		
Diameter of laser light cable (LLK) and beam quality (typical M ² or BPP values)		x = 0: 50 µm: 2.1 mm·mrad x = 1: 100 µm: 4.0 or 3.3 mm·mrad x = 2: 200 µm: 8 mm·mrad BLM: Core – 25 µm, M ² < 1.5; Ring – 100 µm: 4 mm·mrad		
Wavelength	nm	1071		
Dimensions (W x H x D)	mm	600 x 950 x 1100		
Cooling water temperature ranges	°C	18–30		
Ambient temperature during operation	°C	5–45		
Voltage supply input		380–460 V, 50–60 Hz, 3P+PE		
Matching focusing optics		BEO D50, BEO D70, PFO 20, PFO 33		
Selected options		Active power control, extended ambient conditions, interface for intelligent optics, VisionLine interface, diverse field bus interfaces, OPC UA, Remote Services, Condition Monitoring, QDS		

^[1]With the active power control option, ±1% without active power control option.

BPP = Beam parameter product = waist radius x half angle divergence. BLM = BrightLine Mode.

Subject to modifications. The information in our offer, our customer documentation and order confirmation is definitive.

