

# QUBE<sup>2</sup> multi-kW fiber laser

3–6 kW CW/modulated fiber laser



## Providing exceptional levels of power and control for industrial applications

### Key benefits and features

Our fiber laser range offers a definitive solution for a variety of industrial manufacturing and precision applications, combining excellent beam quality, high efficiency and small footprint.

### + Benefits

- Back-reflection protection
- Lower energy bills
- High reliability
- Low maintenance

### + Key features

- PIPA-Q fiber termination with industry-standard optomechanical compatibility
- Integral patented back-reflection protection
- Pierce detection signal
- Range of delivery fiber options
- 10 kHz modulation rate
- Integral pulse shaping
- Easy control integration

### Optimised for

- High throughput industrial laser processing
- Ease of integration into production lines, welding and cutting systems
- Flexible control of welding operations through integrated temporal pulse shape generator



Welding  
304 stainless steel



Cutting  
Brass, stainless steel, copper, aluminium



Thick metal cutting  
Mild steel

### + Applications

- High-speed cutting
- Thick section welding
- Cladding
- Flat sheet cutting

### + Industries

- General fabrication
- Automotive
- White goods manufacture

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## Full feature list

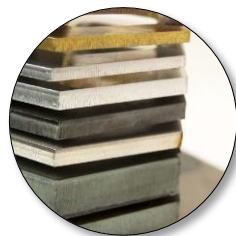
- Based on combined output from individual modules
- Output power options of up to 6 kW
- Patented back-reflection protection
- Integrated pierce detection as standard
- Simple integration into existing equipment
- Replaceable delivery fiber
- Process monitoring capability via back-reflected radiation signal
- Floor standing cabinet
- Integrated pulse-shaping capability
- High frequency modulation

Technical data				
Model		3 kW	4 kW	6 kW
Performance data				
Operating modes		CW and modulated		
Output power range	%	10–100 of specified power		
Long-term output power stability <sup>[1]</sup>	% peak	± 2		
Wavelength	nm	1071 ± 2		
Linewidth	nm	< 10		
Polarisation		Unpolarised		
Min. rise/fall time	µs	< 5 / < 6		
Max. modulation frequency	kHz	≤ 10		
Fiber optic beam delivery				
50 µm fiber	mm-mrad	2.1 BPP <sup>[2]</sup>		
100 µm fiber (enhanced BPP)	mm-mrad	3.3 BPP <sup>[2]</sup>		
100 µm fiber (standard BPP)	mm-mrad	4.5 BPP <sup>[2]</sup>		
300 µm fiber	mm-mrad	13 BPP <sup>[2]</sup>		
Alignment laser wavelength	nm	630–680 (class 2)		
Electrical				
Voltage (nominal)	V	380–415		
Supply		3 phase + neutral		
Max. current range	A	19–25	25–32	37–50
Environment/cooling				
Ambient temperature	°C	5–45		
Coolant flow rate <sup>[3]</sup>	l/min	33	40	56
Max. relative humidity		85% (20°C), 50% (40°C)		
Module dimensions				
Height	mm	1050	1200	1400
Width	mm	850		
Depth	mm	1200		1250

<sup>[1]</sup> Constant temperature. <sup>[2]</sup> Beam parameter product = beam radius × half angle divergence. <sup>[3]</sup> At 25°C water temperature.



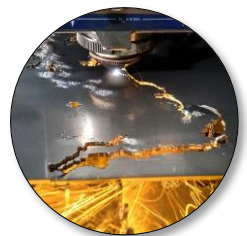
Welding  
Stainless steel



Cutting  
Aluminium, mild steel, copper,  
brass and stainless steel



Cutting  
Stainless steel



Cutting  
Sheet steel

For information on our full suite of pulsed and CW fiber lasers go to: [www.trumpf.com](http://www.trumpf.com)

### Terms and conditions

Some specific combinations of module specifications and optional accessory may not be available. These lasers are designed as units for incorporation or integration into other equipment. All module information is believed to be accurate and subject to change without notice. A complete module specification will be issued on request and also at time of order acknowledgement. The user assumes all risks and liability whatsoever in connection with the use of the module or its application.

