

TruPulse 5050 nano

Nanosecond- pulsed fiber laser

500 W
average
power



Applications

- | | | | |
|------------|-------------------|-------------------------|------------------------|
| › Ablation | › Drilling | › Surface texturing | › Thin film patterning |
| › Cleaning | › Microprocessing | › Solar cell processing | › Welding |



Flexible functionality

Range of pulse waveforms for new and improved applications



Superior quality

Industry-leading reliability, product warranty and improved safety features



Increased productivity

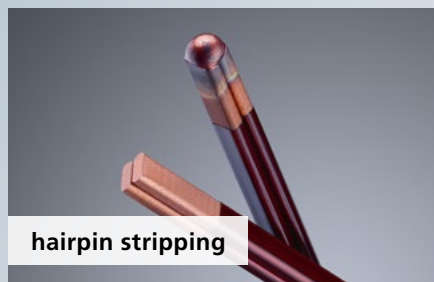
Extended average power range for air-cooled TruPulse nano with 500 W output power



Improved profitability

Low cost of ownership with no service requirements

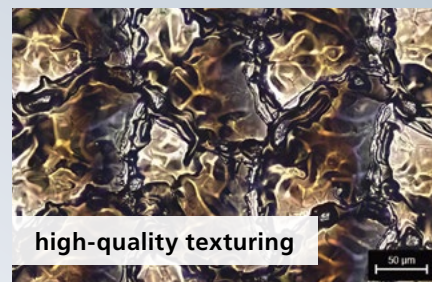
TruPulse 5050 nano is ideal for ...



- With pulse energy up to 6.0 mJ
- Effective PAI and PEEK removal
 - No residual coating



- With large spot diameter ($M^2 \sim 5$)
- Large area rust and paint removal
 - Polishing with $Ra < 1 \mu m$



- With high energy density
- Large area surface functionalization
 - Improved adhesive bonding



PulseTune functionality (EP Series)

- Up to 48 optimized PulseTune waveforms
- Single shot to 4 MHz pulse repetition frequency



Beam quality

(M-Type – $M^2 = 4.0-6.5$, $< 6.0 \text{ mJ}$, $> 50 \text{ kW}$)

- Higher peak power and pulse energy with only minor compromise in spot diameter and good depth of focus

Technical data

Parameters

Central emission wavelength	nm	1061–1067
Nominal average output power	W	500
M^2		Typical 5.0 (max < 6.5)
Collimated beam diameter*	mm	7.5 10 13
PulseTune waveforms		10
Maximum pulse energy	mJ	6
Maximum peak power	kW	> 50
Pulse duration range	ns	30–2000
Pulse repetition frequency (PRF) range	kHz	1–4166

*When used with appropriate TRUMPF Beam Expanding Collimator (BEC).

Details system integration

Parameters

Cooling		Air
Beam delivery cable length	m	5.0 10.0
Laser module dimensions	mm	Air-cooled: 620 × 480 × 180
Power supply voltage	V DC	48
Power supply requirement	W	2500
Operating temperature range	°C	+15 to +40 (cooling and duty cycle dependant)
Relative humidity range		5–95% RH (non-condensing)

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