



**LITHIUM
LASERS** Ultra pulses,
pure impact.

LITHIUMSIX



**Compact high-power laser
emitting high-frequency
femtosecond pulses.**



KEY FEATURES

- **High operational stability**
- Average power up to:
7 Watt at 1050 nm;
3.5 Watt at 525 nm
- Pulse energy up to:
33 nJ at 1050 nm;
16 nJ at 525 nm
- **High emission rate: 210 MHz**
- **Closed loop power control**
- **Compact single enclosure**



APPLICATIONS

- **Biophotonics and life science:**
Multiphoton microscopy;
B-CARS microspectroscopy
- **Non-linear optics:**
Supercontinuum generation;
Seeding of amplifiers;
Harmonic generation;
Spatial and temporal focusing
- **Material processing:**
Femtosecond lithography;
Two-photon polymerization



Lithium Six is a state-of-the-art femtosecond laser emitting high-energy pulses in the IR and green regions.

With pulse durations under 200 femtoseconds and a high repetition rate of 210 MHz, it offers unmatched precision and speed. Its advanced power locker ensures ultra-stable performance even in challenging environments, making it ideal for cutting-edge applications like 3D nano-printing and femtosecond lithography.

Compact, precise, and efficient, Lithium Six redefines femtosecond laser capabilities.



SPECIFICATIONS

Center wavelength	1050 nm	525 nm
Maximum Average power	> 7 W ¹⁾	> 3.5 W ¹⁾
Maximum single pulse energy	> 33.8 nJ	> 16.9 nJ
Pulse duration	< 200 fs	
Long-term power stability, 100 h ²⁾	< 0.5 %	
Repetition rate	210 MHz	
Beam quality	M2 < 1.2	
Beam circularity	> 0.9	
PER	> 23 dB	
Warm-up time	< 20 min	
Operational temperature	15 - 35 °C	
Laser dimensions	390 x 220 x 125 mm	
Laser weight	6 kg	

¹⁾ Different average powers are available upon request.
²⁾ Under stable environmental conditions. Expressed as normalized root mean squared deviation (NRMSD).

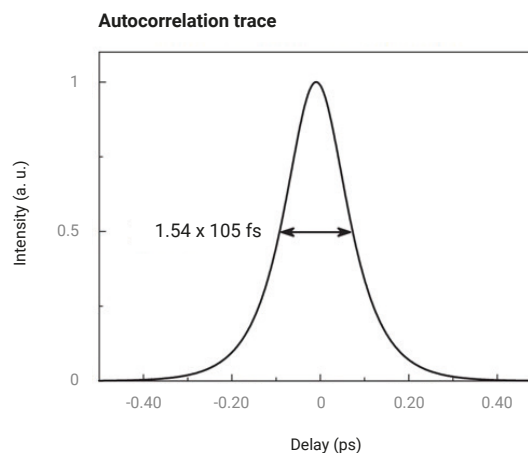


DANGER: VISIBLE AND/OR INVISIBLE LASER RADIATION AVOID EYE OR SKIN EXPOSURE TO DIRECT, REFLECTED OR SCATTERED RADIATION CLASS 4 LASER PRODUCT.



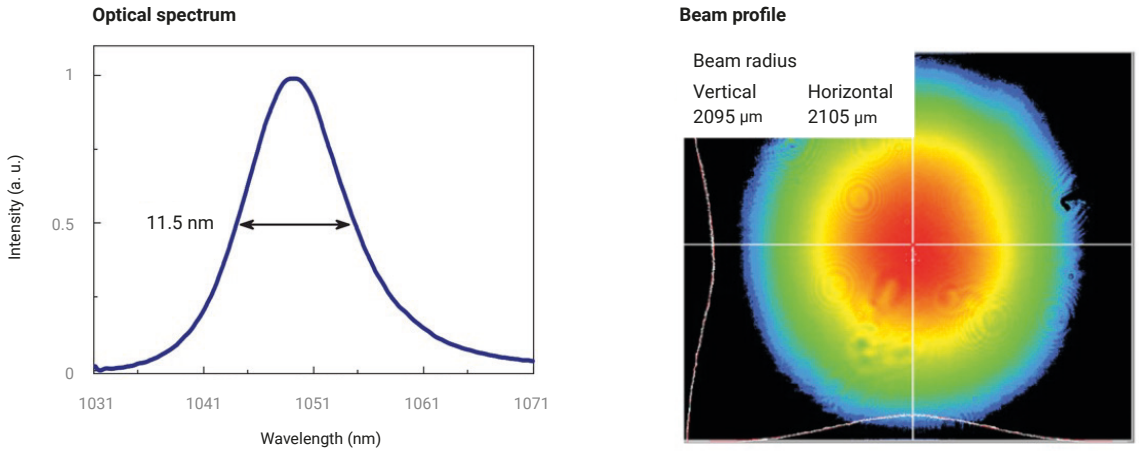
TYPICAL PERFORMANCE DATA OF LITHIUM SIX

Transform-limited pulses

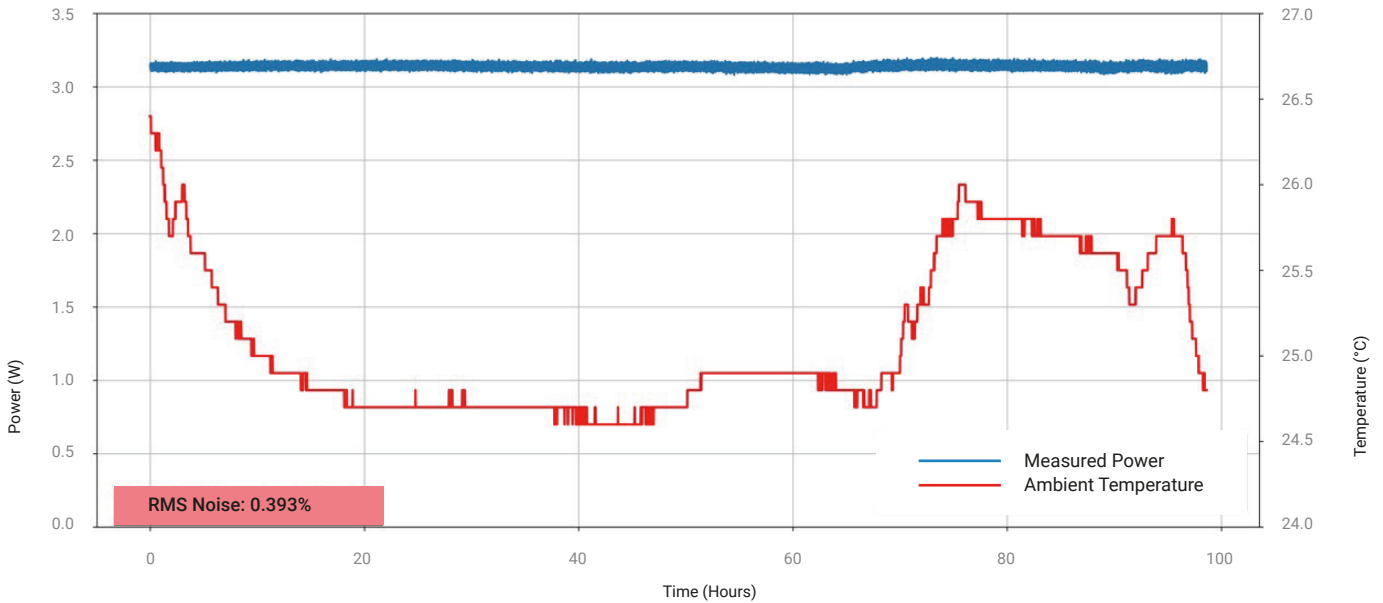




Clean gaussian shape (no Kelly sidebands) and TEM00 profile



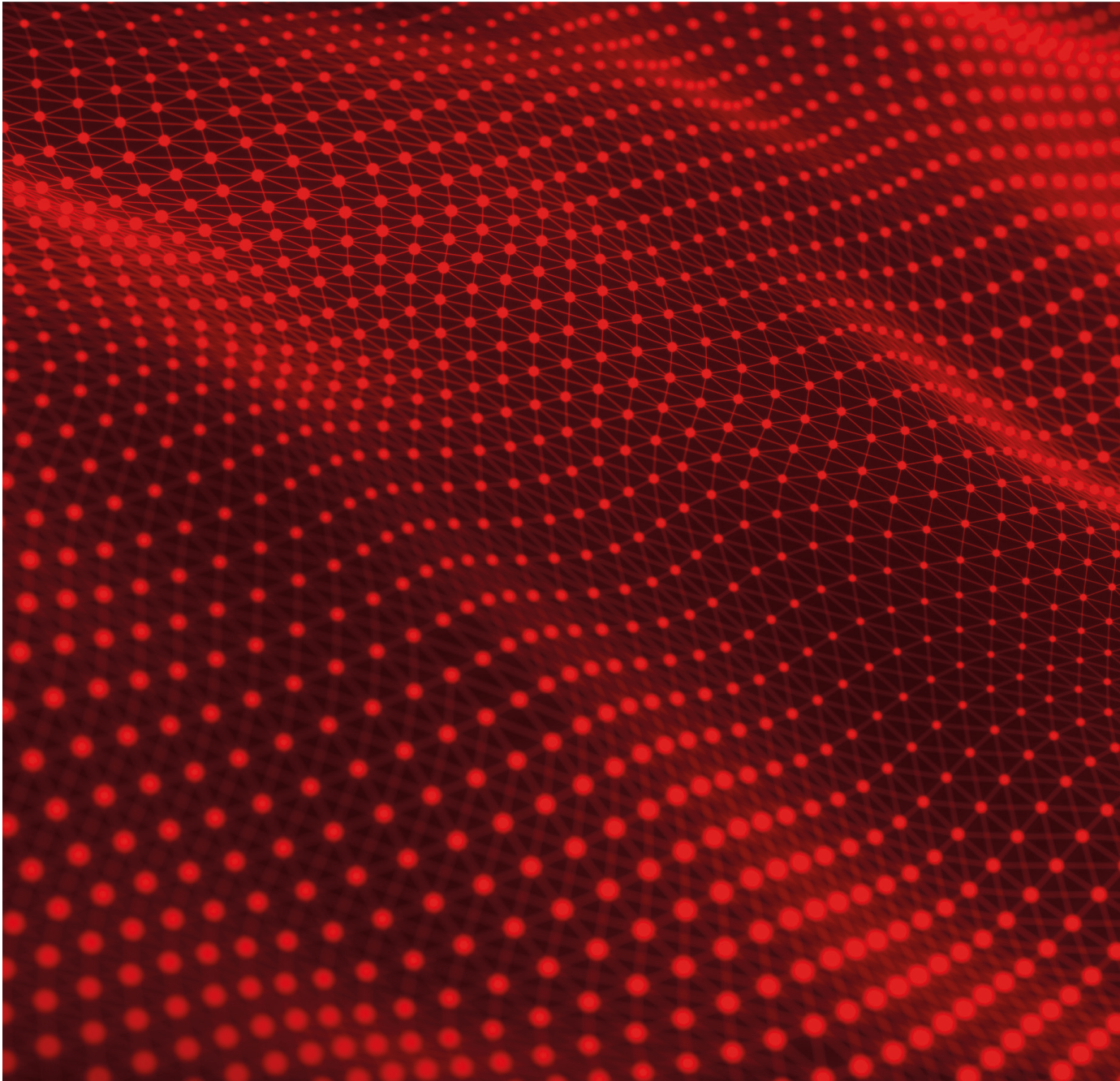
High power stability with close loop power control (Lithium Six, 525 nm)



Advanced power control

The laser system integrates an advanced closed-loop power control system to ensure precise and stable output power, even under varying ambient temperature conditions. This feedback system continuously monitors the laser's output using an integrated photodetector and dynamically adjusts drive parameters to compensate for deviations in real time.

This design ensures superior power stability, which is essential for demanding photonics applications such as advanced nonlinear processes and high-precision polymerization techniques, where output consistency is critical for achieving accurate and reproducible results.



Lithium Lasers srl / Via Zeni 8, 38068 Rovereto (TN) Italy
+39 393 032 9669 / info@lithiumlasers.com
www.lithiumlasers.com