



LSP Technologies

PROCUDO[®]

Laser Peening Systems



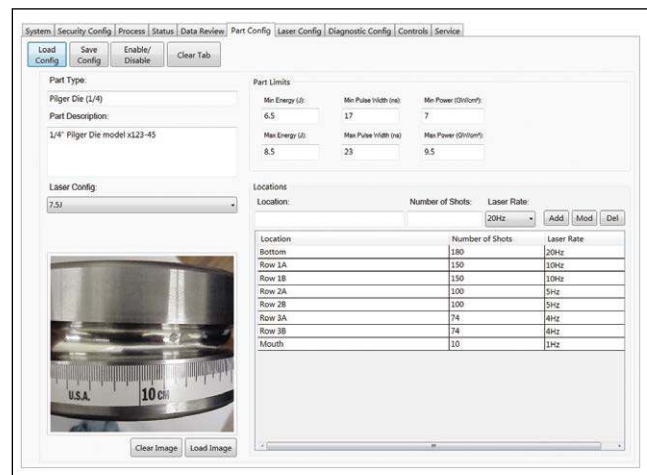
Reliable
Maintainable
Low Operating Cost
Speed for High Volume Production



System Advantages

Procudo® Laser Peening Systems are designed for rapid integration into your process, providing industry leading laser peening throughput, reliability, and usability. The system can be integrated with a wide variety of automated part-handling robots and CNC machines, creating a turn-key laser peening facility that enables laser peening parts of any size and shape. The custom control and diagnostics package, developed from our 20 years of laser peening experience, provides full control over the system with real-time data analysis and feedback.

Integration of the Procudo® Laser Peening System into existing manufacturing facilities can improve manufacturing efficiency and reduce logistical costs.



Screenshot of Control System



System Features

The Procudo® Laser Peening System is a seeded diode pumped pulsed YLF laser that operates in the infrared at a wavelength of 1053 nm. The laser is capable of a repetition rate of 20 Hz and is able to emit an 8 to 16 ns pulse containing 10 Joules of energy. The pulse is selectable to attain discrete pulse rates depending on process parameters. The 200 Watt average power is the highest power pulsed laser available for laser peening. The system can process up to 29 inches² (187 cm²) per minute.

Key Features

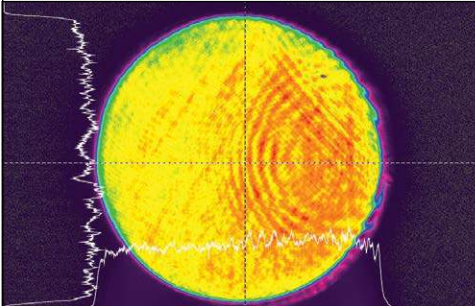
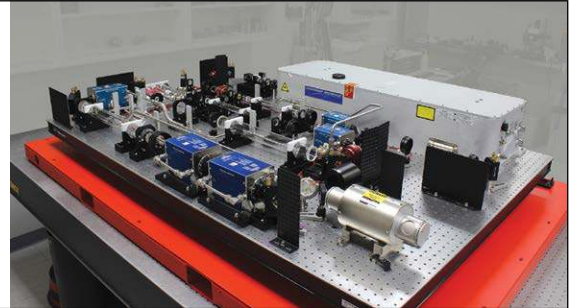
- **Maximum Energy:** 10 J
- **Wavelength:** 1053 nm
- **Pulse Width:** 8-16 ns
- **Pulse Rate:** up to 20 Hz
- **Diode Pumped**
- **Low Maintenance**
- **Process up to 29 in²/min**



PROCUDO[®] Laser Peening Systems

Diode Pumped Laser

Diode pumped lasers maintain high quality beam profiles over billions of shots because they do not deteriorate as quickly as flashlamp pumped lasers. The diode pumped laser provides a longer lifetime with less downtime and low maintenance.

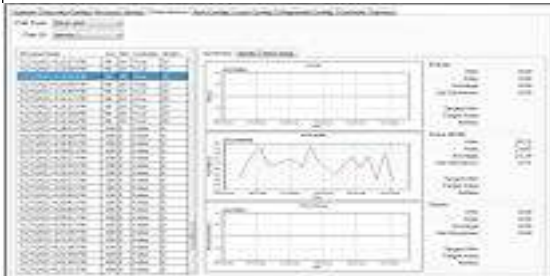
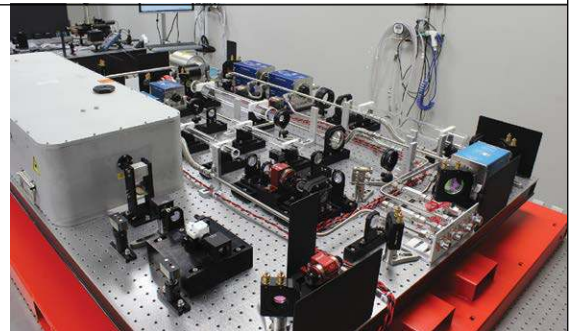


Flat-Top Beam

The flat-top beam provides a smooth distribution of energy for consistent processing results. The constant energy distribution creates uniform residual stress distribution in the part, optimizing the laser peening capability while minimizing surface roughness.

Seeded Oscillator

The laser employs a seeded Master Oscillator-Power Amplifier (MOPA) configuration to obtain a smooth distribution of energy in the laser pulse (between 8-16 ns). Ultra-long life quasi-continuous-wave (QCW) pump diodes allow the laser to operate for billions of shots before needing replacement.

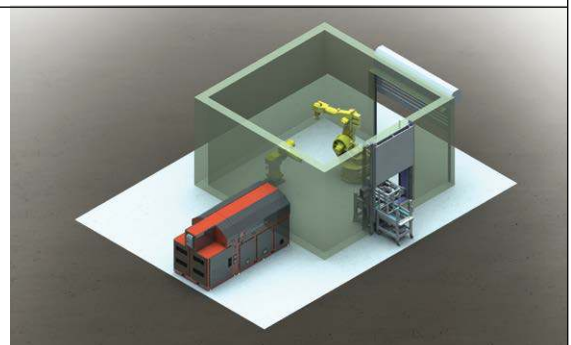


Selectable Pulse Options

The pulse width in the Procudo[®] LSP System can be selected between 8-16 ns, providing precise control over residual stress profiles and depths. Each laser pulse is tuned to specific application.

Peening Cells

LSPT offers standard and customizable peening cells to achieve component requirements and manufacturing line. The Procudo[®] Laser Peening System is fully integrated with the cell. The peening cells are designed for maximum throughput and high efficiency part handling.





LSP Technologies

Established in 1995, the LSP Technologies team has over 250 years of combined laser peening experience. The Procudo® Laser Peening System was developed to increase our in-house production laser peening service capabilities as well as offer a robust system for sale and integration into a customer facility.

LSP Technologies is the only company operating, selling, installing, and integrating fully licensed laser peening systems in the world. LSPT offers state-of-the-art laser peening equipment sales or leases, long term contract processing and application development for laser peening production at the Dublin, Ohio facility, and laser peen forming R&D. We are dedicated to building long lasting partnerships with our customers by providing quality products and services, a commitment to excellence, and exceeding expectations.

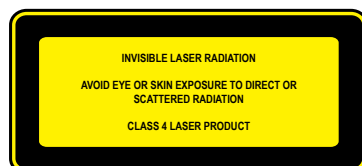
LSP Technologies' Quality Management System has been registered to AS9100 and ISO 9001 since 2004 for Laser Processing Services and Equipment Design.

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Laser Class 4 in accordance with FDA 21, IEC 60825-1, EN 60825-1. SCATTERED RADIATION CLASS 4 LASER PRODUCT FDA 21CFR CH.1, 1040

U.S. installations must meet ANSI Z136.9.