

SPECTRON PRODUCT GUIDE



Industrial, Scientific and Medical Lasers for end users and OEMs.

Spectron Laser Systems is well established as one of the world's leading manufacturers of solid state and gas lasers. Since its foundation in 1982, Spectron has installed thousands of lasers around the world and has built an international reputation for solid and reliable products with a high level of performance and economical through-life costs.

A comprehensive and ever-expanding range of Nd:YAG and CO₂ lasers has been developed for industrial and medical OEMs and systems integrators. In addition, Spectron continues to supply standard and customised high energy pulsed and CW lasers to academic, government and commercial research organisations.

Standard and Custom Solutions from a Partnership Company

Spectron's philosophy is to establish long-term relationships and a detailed understanding of its customers' needs. With its focussed product support teams, Spectron continues to develop innovative solutions to complex requirements.

As one of the few laser companies which designs, develops and manufactures all the individual parts of its own systems, Spectron is able to provide its customers with bespoke laser solutions at reduced costs and timescales, without compromising quality or performance.

Quality and Support as Standard

Spectron is dedicated to quality and to meeting the highest standards. As a result of significant investments in its operational and test facilities over the years, all of Spectron's products comply with the latest international manufacturing, engineering, laser and safety standards.



With world headquarters based in Rugby, England and subsidiaries in Rhode Island, USA and Frankfurt, Germany, Spectron is a true global supplier of laser products. In addition, fully trained distributors ensure that support is always close at hand.

Leading Edge Lasers for the Future

Spectron continues to invest heavily in leading edge laser technology. This investment and extensive R&D capabilities will ensure Spectron's continued support of advanced laser applications for many years to come.

SCIENTIFIC PULSED Nd:YAG LASER SYSTEMS

RANGE HIGHLIGHTS

- 40mJ to 2.75J per pulse at 1064nm
- Repetition rates up to 100Hz
- Q-switched pulses between 3-25ns
- Harmonic generation of 532, 355, 266 & 213nm

Spectron's range of Q-switched Nd:YAG lasers suits all needs and budgets, from the ultra-compact Micro-Q, to the modular, high energy SL400-850 series. Twin versions of all models are available for PIV and ESPI studies, while convenient, integrated YAG/Dye and YAG/OPO systems are offered for advanced spectroscopic research.



The Micro-Q is the world's smallest laser to deliver more than 100mJ. The Mini-Q and Compact-Q are also compact and economical but provide outputs of more than 300 and 750mJ respectively.

SCIENTIFIC APPLICATIONS INCLUDE:

Tuneable Laser Pumping
PIV & ESPI
Remote Sensing/LIDAR
LIBS
Photochemistry
Non Linear Optics
TOF Mass Spectrometry
Photoablation
Holography
Plasma Diagnostics
Laser Induced Fluorescence



Spectron's SL400-850 series is the laser of choice for those requiring the ultimate in flexibility, stability and performance. The invar-stabilised space-frame construction and modular electronics allow cost-effective customisation and field upgrade. With a choice of Gaussian, Telescopic and TEM₀₀ resonators, each laser can be configured to provide the desired combination of beam quality, divergence and pulse duration.



Scientific Solution

INDUSTRIAL Nd:YAG & CO₂ LASERS

OEM LAMP & DIODE PUMPED Nd:YAG LASERS

RANGE HIGHLIGHTS

- CW powers up to 300 watts multimode
- TEM₀₀ powers up to 28 Watts
- Optional Q-switch and 532nm harmonic generation

Spectron's comprehensive range of lamp and diode pumped Nd:YAG lasers provides the exceptional beam quality, performance and reliability required in the most demanding industrial applications and environments.

The modular, invar rail space-frame construction provides unsurpassed stability and makes customisation simple and economical. Lamp changes take minutes, without the need for cavity re-alignment. All models use an all-stainless steel and ceramic pumping chamber, giving indefinite system life.

DPSS models are available with billet machined sealed heads, which incorporate field replaceable diode modules for straightforward maintenance.

OEM packaging options include cased and uncased laser heads, and 19-inch rack mount power supply and cooler units.



OEM CO₂ LASERS

RANGE HIGHLIGHTS

- RF and DC excitation
- Diffusion cooled long life sealed technology
- Power levels: 10, 25, 50, 110, 220, 400 Watts
- Air or water-cooling
- Standard or custom systems

Spectron's new RF-excited CO₂ lasers have been specifically designed for OEMs requiring high quality, compact and reliable lasers with true *fit & forget* performance. Models with output powers from 10 to 50 Watts are available in a variety of configurations including a choice of air or water-cooling, all at affordable prices.

Spectron's sealed DC-excited CO₂ lasers offer unparalleled beam quality, efficiency and longevity at powers from 10 to 400 Watts. Packaging choices include bare tubes and OEM power supplies and in addition cased models with power meters, shutters, alignment lasers, modulators and basic beam delivery modules are also available.



INDUSTRIAL APPLICATIONS INCLUDE:
 Marking
 Deep Engraving
 Cutting
 Perforating
 Micromachining
 Drilling
 Ablative Cleaning
 Precision Scribing
 Sintering
 Welding
 Etching

CW Lamp Pumped Series

The SL500, SL900, SL1300 & SL2500 series CW lamp pumped lasers provide output powers of up to 300 Watts multimode and 28 Watts TEM₀₀.

Available options include Q-switching, and second harmonic generation. Custom systems with powers of up to 800 Watts have been delivered.

Diode Pumped Series

The SLD2100 series of CW and Q-switched diode pumped Nd:YAG lasers provides high electrical

efficiency with reduced cooling requirements up to 60 Watts multimode. TEM₀₀ and 532nm outputs are available as options.

Pulsed Lamp Pumped Series

The SL600 series delivers up to 70 Watts multimode or 12 Watts TEM₀₀ at pulse repetition rates from 500-2000Hz. The high-energy 10-40µs pulses are ideal for micro-machining and micro-cutting applications.

Q-switched Lamp Pumped Series

The SL2450 & 2850 series deliver 20ns Q-switched pulses at 100Hz, with up to 200mJ @ 1064nm and 100mJ @ 532nm. Third and fourth harmonic options are also available.



OEM MEDICAL LASERS

RANGE HIGHLIGHTS

- Ruby, Nd:YAG, Er:YAG, Nd:YLF, Alexandrite lasers
- CO₂ models also offered
- Beam delivery via articulated arm or optical fibre

The SL1200 series of solid-state lasers offers a choice of Q-switched and long pulsed outputs, while the invar stabilised resonators ensure long-term stability without realignment. All laser modules are fully approved to IEC 601 for medical devices. Beam delivery is through Spectron's own articulated arm,

which offers complete freedom of movement and has provision for the attachment of replaceable hand pieces. Fibre optic delivery is also available.

MEDICAL APPLICATIONS INCLUDE:

- Treatment of Pigmented Lesions
- Treatment of Vascular Lesions
- Long Term Hair Removal
- Skin Resurfacing
- Tattoo Removal

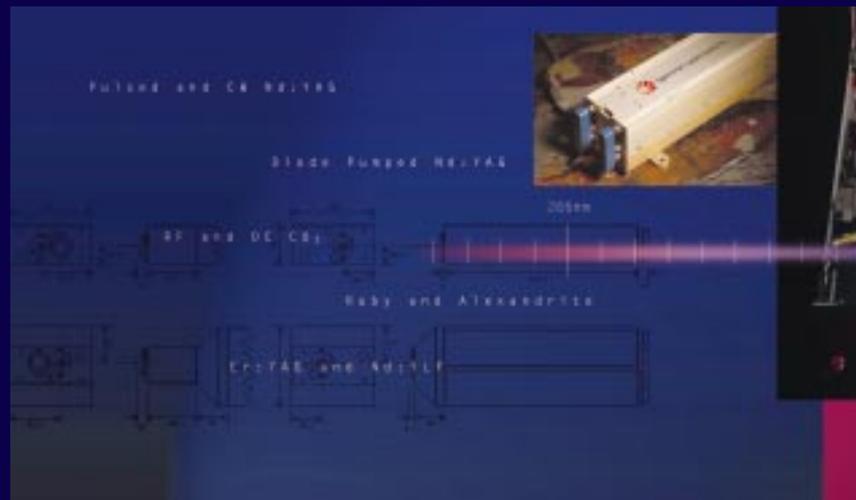


Laser Accessories

ACCESSORIES INCLUDE:

Laser Controllers/Computer Interfaces
Chillers & Coolers
Harmonic Generation Assemblies
Integrated and Stand-Alone
Energy/Power Meters
Integrated Pulse Shape Monitors
Visible Alignment Lasers
Amplitude Stabilisers
Variable Attenuators
Etalons
Injection Seeder
Articulated Arms
Beam Delivery Systems

Spectron delivers comprehensive laser solutions. The accessories and upgrades shown here have all been developed in-house to work seamlessly with Spectron's lasers.



Individual brochures and datasheets for all Spectron products are available either printed or as Acrobat PDF files for electronic transfer.

For expert advice on the very latest standard and custom solutions, Spectron's Product Specialists are on hand to discuss your needs.



Worldwide Support



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