

## Industrial laser increases throughput



[www.nufern.com](http://www.nufern.com)

Nufern's first industrial fibre laser, NuFIRE, is a high-performance 200-W ytterbium fibre-laser system designed to offer flexibility and ease of use.

The laser is powered by a standard wall plug and features air cooling and a remote mountable input-output control panel. According to Nufern, an intuitive Windows-based interface, including a visual waveform generator, simplifies operation, making it suitable for users who are not engineers.

With slew rates of  $70 \text{ W } \mu\text{s}^{-1}$  and precision pulse control capable of a 5- $\mu\text{s}$  rise or fall time, the NuFIRE laser offers precise control of cut and weld quality. A maximum modulation frequency of more than 120 kHz at full power means that more power can be delivered to the work piece in a given time interval, resulting in higher throughput in the manufacturing environment. Capable of sustained continuous-wave or pulsed operation, the NuFIRE system features four on-board function triggers to switch instantaneously from one custom-shaped waveform to the next, further increasing throughput.

## Plug-and-play models suit phase-stabilized applications

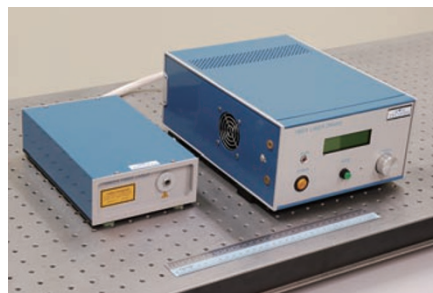
[www.precisionphotonics.com](http://www.precisionphotonics.com)

Precision Photonics Corporation (PPC) is now offering the 'plug-and-play' FFL1560-CONTROL laser system line. The FFL1560-CONTROL lasers are temperature-stabilized systems emitting pulses with durations of more than 100 fs and offering stabilization of the laser's repetition rate and carrier-envelope offset frequency. Users can choose from a variety of options, from the low-cost 1-mW, 250-fs version at a price of \$22,800, to the ultrahigh-power version, which has an average power of more than 140 mW and pulse durations of more than 100 fs (more than 4 nJ per pulse or more than 45 kW peak power).

According to PPC, the FFL-1560-CONTROL is ready to use straight from the box and its robust all-fibre design enables use in any laboratory environment that has a temperature between 20 °C and 30 °C. As it provides the user with control over the

cavity temperature and length by means of a piezo-electric transducer (PZT) actuator and pump-laser current modulation, the FFL1560-CONTROL is said to be ideal for applications requiring precision phase stabilization including optical frequency metrology, generation of optical frequency combs, atomic-molecular-optical physics, quantum communications and nonlinear optics. The FFL1560-CONTROL provides a robust, compact and turn-key solution that covers the spectrally important 1.5- $\mu\text{m}$  region.

## Green laser offers wavelength choice



[www.zecotekmed.com](http://www.zecotekmed.com)

Zecotek Medical Systems has developed a green fibre laser that it claims is more energetically efficient, more compact and delivers higher power with a higher-quality beam than existing solid-state and gas lasers. Applications for the laser series include replacement of existing ion gas and diode-pumped solid-state lasers used in both industrial and scientific applications. Potential uses include bio-instrumentation (for example DNA sequencing, flow cytometry and scanning laser microscopy); medicine (such as ophthalmology, dermatology and urology), printing and imaging; material processing (for example laser writing, lithography and sintering); and fundamental research (such as spectroscopy and fluorescent analysis). The company says that the new laser series can operate at wavelengths of 515, 521, 529, 531 and 532 nm as well as in the 532–560 nm window, which offers opportunities for advanced applications. Zecotek's fibre lasers are based on intracavity doubling systems. Additional options, such as multiwavelength, tunability and narrow-band outputs, are also available.

## Single-mode emitter reaches three kilowatts

[www.ipgphotonics.com](http://www.ipgphotonics.com)

IPG Laser, a subsidiary of IPG Photonics, has developed what it claims is the world's

first commercial 3-kW continuous-wave ytterbium single-mode fibre laser. IPG's multikilowatt single-mode fibre laser family is designed for deep-penetration and fuel-cell welding, percussion drilling, and remote welding and cutting.

IPG believes the new fibre laser represents the first low-cost alternative to expensive electron-beam technology for deep penetration welding. Also in contrast to electron-beam welding, the higher-power single-mode fibre laser does not require operation in vacuum conditions. In addition, it is well-suited for directed energy programmes because of its excellent beam quality at kilowatt power levels. IPG's 3-kW laser is also suitable for a wide range of industrial tasks, including thick-plate cutting and welding, as well as for use on high-strength metals used in the auto industry.

## Pulsed fibre laser range extended



[www.spilasers.com](http://www.spilasers.com)

SPI Lasers has extended its pulsed-laser product range for marking solutions. Its 10-W and 20-W restricted-modulation pulsed-laser modules are the newest members of their marking-product family, complementing the existing 12-W and 20-W G3 models. SPI says that the 20-W G3 models have successfully served the marking and micromachining markets respectively, securing volume orders in a wide variety of applications, such as metal and plastic marking, paint on plastic removal, ID-card marking and thin-film ablation.

The new lasers are well suited to more basic metallic and plastic marking applications, which make up the bulk of consumer and industrial marking requirements. "SPI has spent months listening to our customers in order to really understand what makes a marking business competitive, and the result is the new, broader range of pulsed lasers," said John Tinson, SPI's vice-president of sales. "This enhanced range of products enables industry to procure with ease and confidence, the most cost-effective and efficient marking equipment in line with their [customers'] needs."