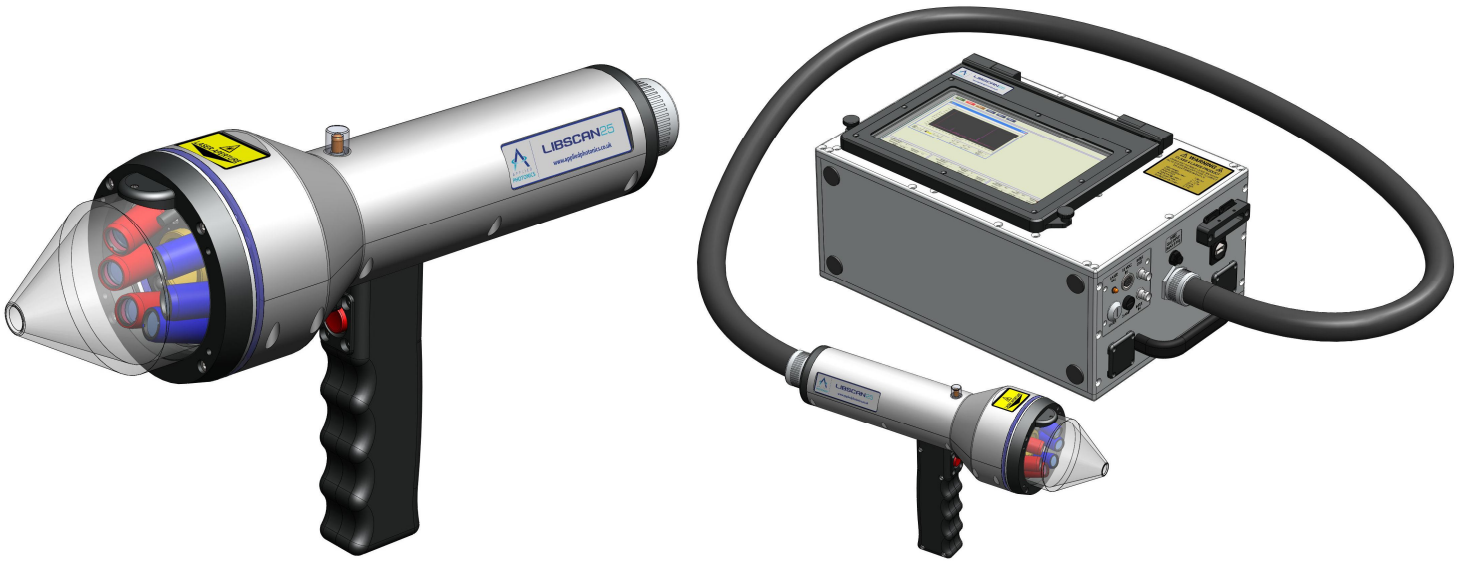
APPLIED PHOTONICS

LIBSCAN25™

MATERIAL CHARACTERIZATION SYSTEM

Fully Portable, Battery-Powered Modular LIBS System
Versatile, adaptable, upgradeable – for laboratory and field use



LIBSCAN 25 is suitable for routine sample characterization use and, by virtue of its highly modular design, is also well-suited to research and development work and so will appeal to development scientists working on industrial, security and defense applications of LIBS technology. LIBSCAN 25 can be operated in “open-beam” mode as a Class 4 laser system or fitted with one of our range of fully-interlocked modular sample chambers as a Class I laser system. In either configuration the system can be operated with the LIBSCAN 25 head held or mounted in any orientation offering further flexibility in the types of sample that can be analysed.

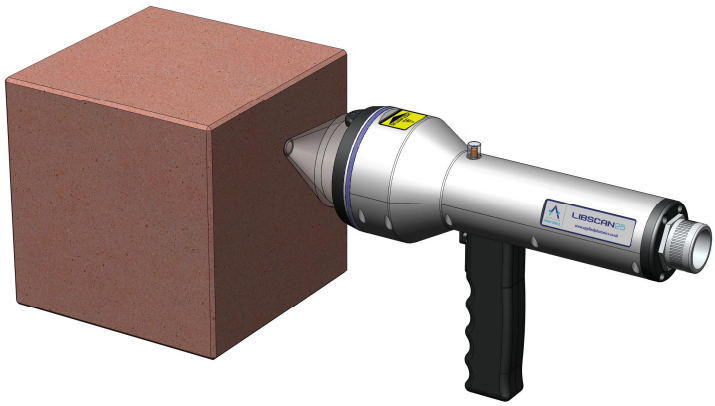
Features

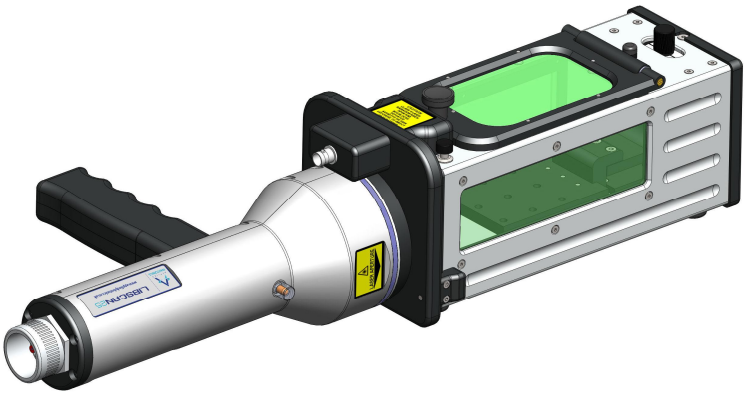
- Hand-held LIBSCAN 25 head with integral laser and plasma light collection optics array
- Laser: 25 mJ, 1064 nm, pulse length 4 ns, max. repetition rate 0.3 Hz
- Optional fully integrated imaging camera kit for close-up colour images of the sample surface
- 1.8 m long flexible umbilical between LIBSCAN 25 head and instrument console
- Instrument console contains up to six spectrometers, laser power supply, integrated netbook computer
- Remote USB colour monitor – may be hand-held or worn by the operator using a neck strap
- Modular and versatile design, suitable for laboratory and field applications
- 3-lens laser beam expander capable of producing a minimum spot size of less than 100 microns
- High efficiency plasma light collection optics (3 UV-VIS channels and 3 VIS-NIR channels)
- May be operated with sample chamber (to Class I laser safety standards) or without (Class 4 “open beam” configuration)
- Gas purge feature (for connection to external inert gas supply – Argon, Nitrogen, Helium, Air)
- Up to six spectrometer modules may be installed (approx. 185 – 900 nm)
- Adjustable laser focus
- Designed to meet international standards on laser safety (Class 4 without sample chamber, Class 1 with sample chamber)
- LIBSoft™ data acquisition and control software with free upgrades for 2 years

General Specifications

Technology:	Laser-Induced Breakdown Spectroscopy
Laser source:	Q-switched Nd:YAG operating at 1064 nm (Class 4 laser device)
Laser pulse energy:	Up to 25 mJ
Laser pulse duration:	4 nanoseconds
Laser PRF:	0.3 Hz max.
Optical spectrograph:	Up to 6 spectrometer modules may be installed. Spectrometer module 1: 185 nm – 256 nm, DUV detector coating, FWHM = approx. 0.05 nm Spectrometer module 2: 255 nm – 315 nm, DUV detector coating, FWHM = approx. 0.05 nm Spectrometer module 3: 314 nm – 416 nm, DUV detector coating, FWHM = approx. 0.05 nm Spectrometer module 4: 414 nm – 498 nm, FWHM = approx. 0.03 nm Spectrometer module 5: 496 nm – 718 nm, FWHM = approx. 0.15 nm Spectrometer module 6: 716 nm – 904 nm, FWHM = approx. 0.15 nm
Approx. dimensions:	LIBSCAN 25 head: 340 x 215 x 100 mm, weight: ~2 kg Instrument console: 390 x 265 x 180 mm, weight: ~12 kg
Umbilical:	Approx. 1.8 m between LIBSCAN 25 head and instrument console
Sample interface:	Via use of modular sample chamber or via use of LIBSCAN head alone (ie. “open beam” path to sample)
Optional sample chambers:	See our website for details of range of modular sample chambers
System software:	Data acquisition, processing and recording via user-friendly LIBSoft™ software
Data connectivity:	USB 2.0 port located on instrument console
Power requirements:	12 VDC, 2.5 Amp max. – LIBSCAN 25 is supplied with an 8Ah 12V Li-Ion battery, mains plug-in charger and vehicle cigar lighter socket charging lead (Netbook computer is powered by its own internal batteries and is supplied with a mains plug-in power lead / charger)
Product classification:	Class I laser product when used with one of our range of modular sample chambers and instructions given in User’s Manual are adhered to. Class 4 when used without a modular sample chamber

Example configurations





Specifications subject to change without notice

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