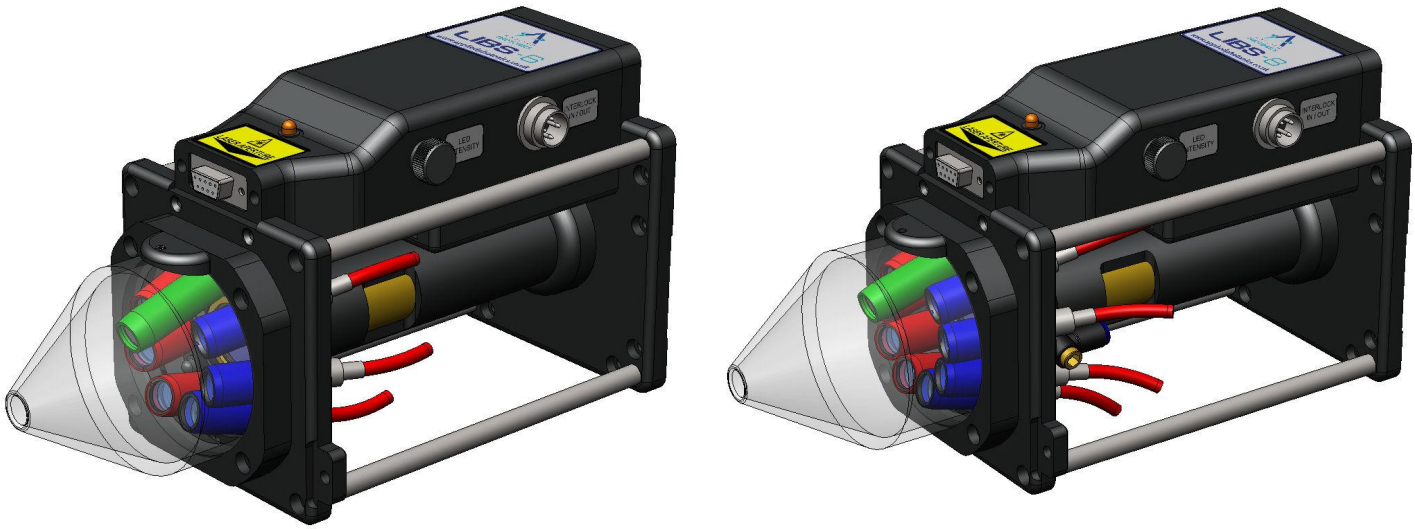
LIBS-6™ & LIBS-8™

LIBS Modules

Integrated optical modules for configuring customised LIBS systems from a range of pulsed lasers and UV-Vis-NIR spectrometers



LIBS-6 module (left) and LIBS-8 module (right) illustrated with optional imaging camera (green tubular housing)

Essentially a “LIBS system building block”, the LIBS-6 and LIBS-8 modules may be used together with a variety of Q-switched Nd:YAG lasers and optical spectrometers to form a customised LIBS system tailored to suit the requirements of your specific application or experimental research. The LIBS modules remove the need to design and construct your own laser focussing optics and plasma light collection optics by combining these features into a compact, integrated and easy to use device.

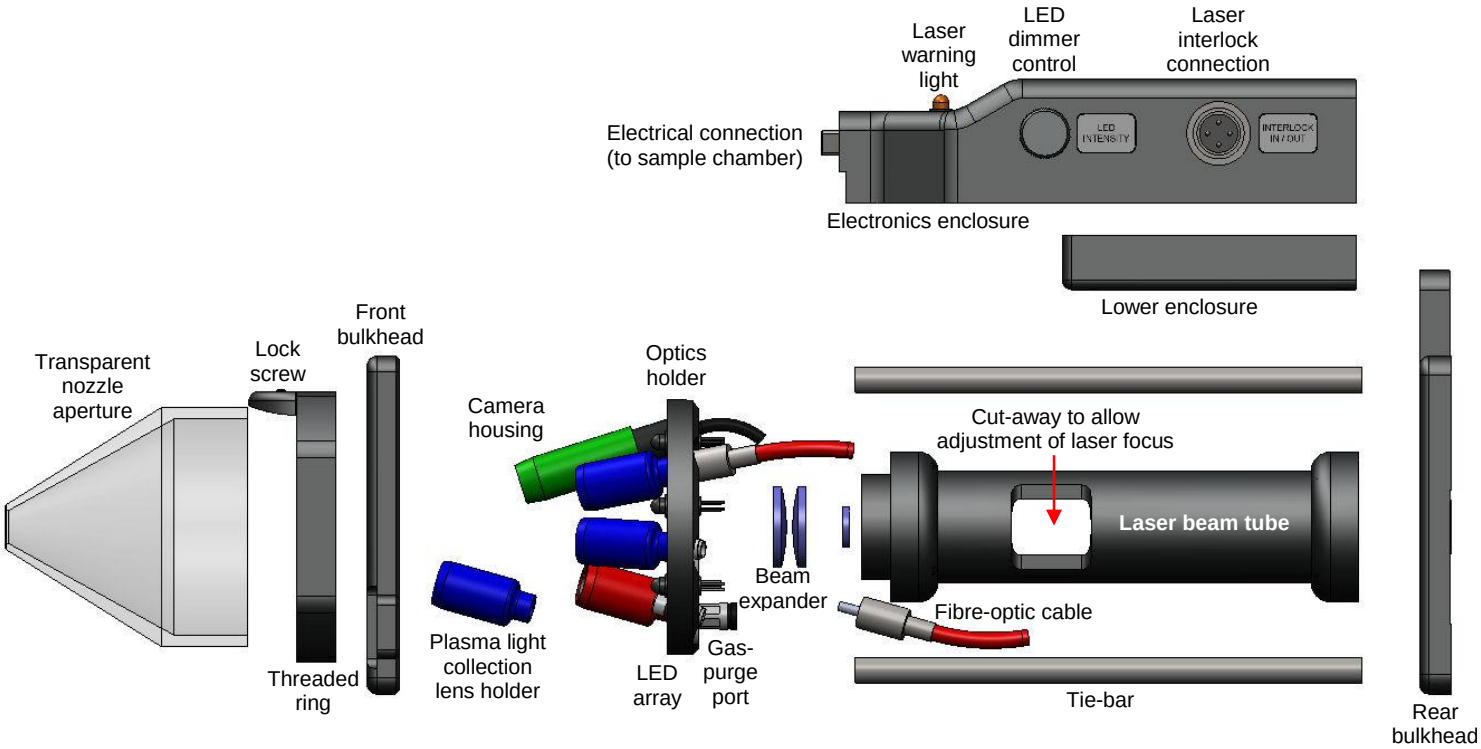
Example configuration – Brilliant B laser, AP-Brilliant adaptor plate, LIBS-6 module, SC-2C sample chamber

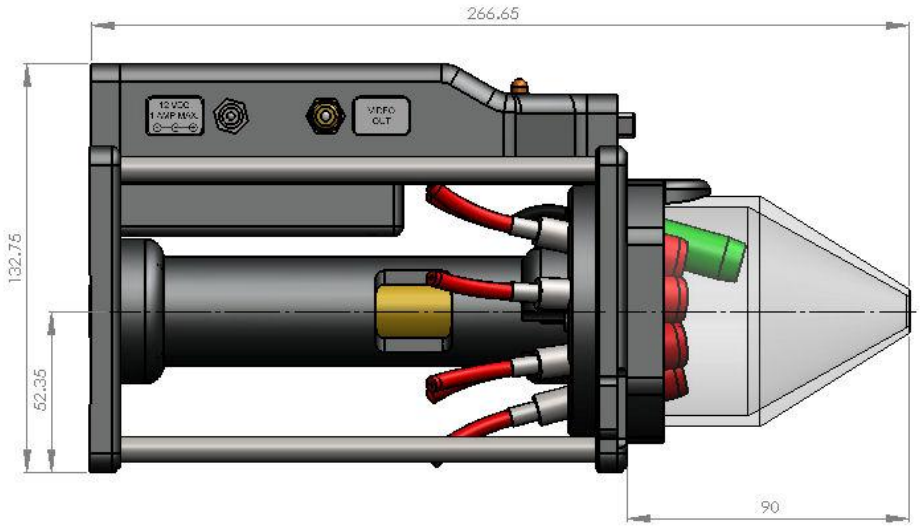
Features

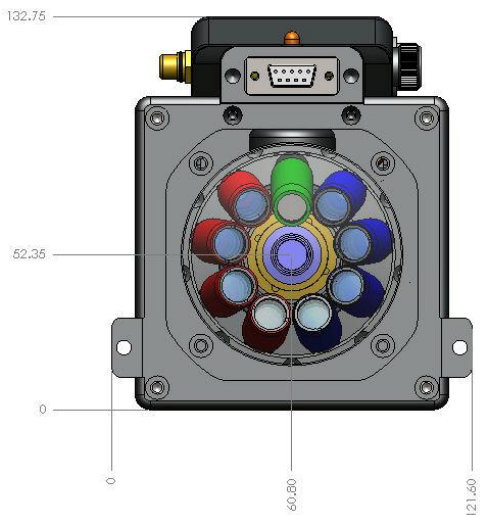
- Allows easy conversion of a standard Q-switched Nd:YAG laser into a LIBS device (requires: adaptor plate to attach LIBS module to laser head, suitable spectrometer(s), fibre-optic cables and computer)
- Available in 6-channel (LIBS-6) or 8-channel (LIBS-8) versions
- High-efficiency plasma light collection optics – UV-Vis (blue lens holders), Vis-NIR (red lens holders)
- Suitable for integration with a range of commercially-available Q-switched Nd:YAG lasers (1064 nm, 532 nm, 355 nm, 266 nm). Adaptor plate required – contact us for available options.
- Integral laser beam expander with adjustable focus (theoretical minimum spot size typically 30 - 100 microns depending on laser used)
- Adjustable nozzle aperture – provides a convenient means of setting the distance to the sample.
- May be used in ‘open beam’ configuration (Class IV) or with fully-interlocked (Class 1) modular sample chambers
- Fully compatible with our range of modular sample chambers
- Working distances (nominal distance to sample): ~80 mm (LIBS-6) and ~90 mm (LIBS-8)
- Gas purge facility for supplying inert gas (argon, helium, nitrogen, air) to sample surface
- Optional imaging camera kit (IMG-1) for viewing sample surface. Kit includes miniature colour camera, dimmable high-brightness white LEDs for illuminating sample, LCD colour monitor, USB video converter for connection to a PC.

General Specifications

Technology:	Laser-Induced Breakdown Spectroscopy
Laser source:	Q-switched Nd:YAG (specify make, model and configuration of laser when ordering LIBS module)
Spectrometer:	LIBS modules are compatible with various fibre-optic coupled spectrometers (contact us for advice)
Plasma light collection:	Six (or eight) collection lenses arranged in a circular array and covering wavelength range ~185– 1000 nm
Fibre-optic interface:	Six (or eight) SMA 905 connectors located at rear of optics holder (see below). Use multiple single-core fibre-optic cables for multiple spectrometers or 6-into-1 (or 8-into-1) fibre optic bundle for single spectrometer. Contact us for advice
Laser beam expander:	Adjustable focus (approx. +/- 7 mm). Minimum spot size typically 30 - 100 microns depending on laser. Beam expander designed to suit specific Nd:YAG laser
Dimensions:	Approx. 262 (L) x 122 (W) x 133 (H) mm, weight: ~2 kg
Sample interface:	"Open beam" path to sample or via use of one of our modular sample chambers
Optional sample chambers:	Compatible with our range of modular sample chambers (SC-1, SC-2C, SC-2M, SC-2L, SC-3L)
Optional imaging camera:	LIBS-6 and LIBS-8 modules are fully compatible with our IMG-1 imaging kit
Optional software:	Data acquisition, processing and recording via user-friendly LIBSoft™ software (please contact us for details on which lasers and spectrometers are supported by LIBSoft). NB. LIBSoft is not necessary for operation of LIBS modules
Power requirements:	12 VDC, 1 Amp max. via plug-in power supply (100 – 240 VAC, 50-60 Hz, <25 VA)
Product classification:	Class IV when used without modular sample chamber. Class I laser product when used with modular sample chambers and instructions given in User's Manual are adhered to







Specifications subject to change without notice

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