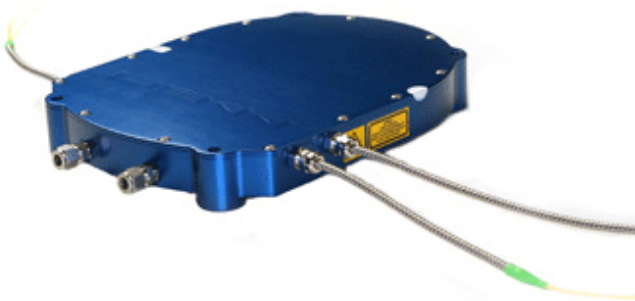


LIEKKI™ OE-Yb-L-100

100 W CW Fiber Laser Module/Optical Engine



LIEKKI™ OE-Yb-L-100 optical engines are plug-and-play laser modules for 50 to 100 W average output power for fiber laser applications. The optical engines are fully integrated fiber laser subassemblies with pump input fibers ready for splicing and signal output fiber available as a pigtail or with collimating optics.

The efficiency and design gives the application designer the flexibility to create a wide range of powerful and easy-to-use solutions.

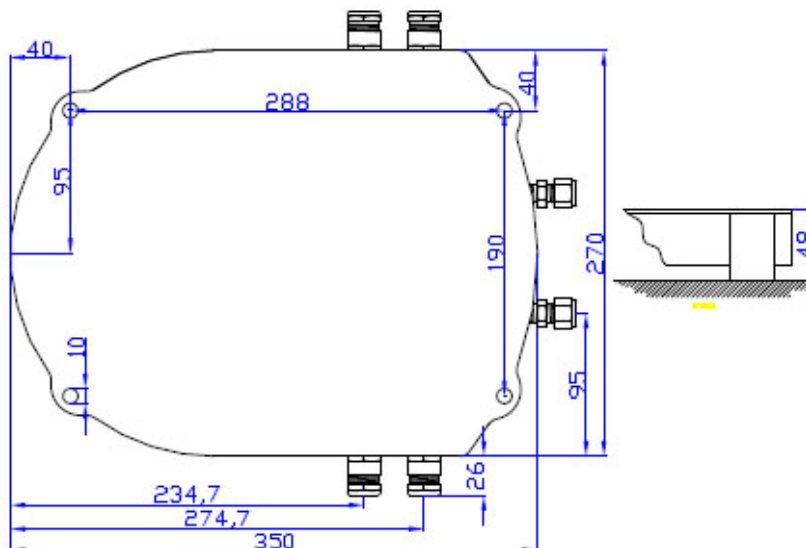
Applications

- Marking
- High-resolution soldering
- Fine material cutting/welding
- Polymer cutting/welding

Features

- Complete optical engine modules with standard input fiber ready for splicing
- Signal output fiber available as a pigtail or with collimating optics
- High optical efficiency with optimal beam and signal characteristics, minimal nonlinear effects
- Available as conductively cooled version
- Possibility to fit into customer supplied package
- Reliable design with medium power tolerance and very low photodarkening
- Compact, easy to mount with built-in water cooling
- Robust

Mechanical drawing



Typical device specification**Optical specifications**

Rated output power	100 W ¹
Central emission wavelength	1090 (optional 1060 - 1080), +/- 2 nm ²
Mode of operation	CW, quasi CW
Polarization	Random
Pump wavelength	Center wavelength 915 - 920 nm, FWHM < 5 nm ³
Emission bandwidth (FWHM)	< 2 nm
M ²	1.5 to 2.0
Optical-optical efficiency	> 50 % ⁴

Mechanical specifications

Package size, mm	350 x 270 x 50 ⁵
Weight	6.5 kg
Pump output fiber	Single output fiber ⁶
Pump input fibers	6 x 200/220 μm (0.22 NA) ⁶
Input power per pump fiber	35 W
Cooling	Water ⁷

Environmental specifications

Operating temperature range	+10 to +30°C
Operating humidity range	5 to 90% RH
Storage temperature range	+0 to +70°C
Storage humidity range	5 to 90% RH

Options

- 1) OE spliced to pump diodes⁸
- 2) Connectorized pump input fibers⁹
- 3) Output cable with collimator¹⁰

1 17 - 20°C water temperature, 5 l/min flow.

2 Optional wavelengths reduce optical-optical efficiency.

3 Pump wavelengths outside this range decrease the optical-optical efficiency and may lead to device overheating or failure.

4 At specified pump and emission wavelengths, > 75 W of output power.

5 Excluding water connectors and glands for output cables.

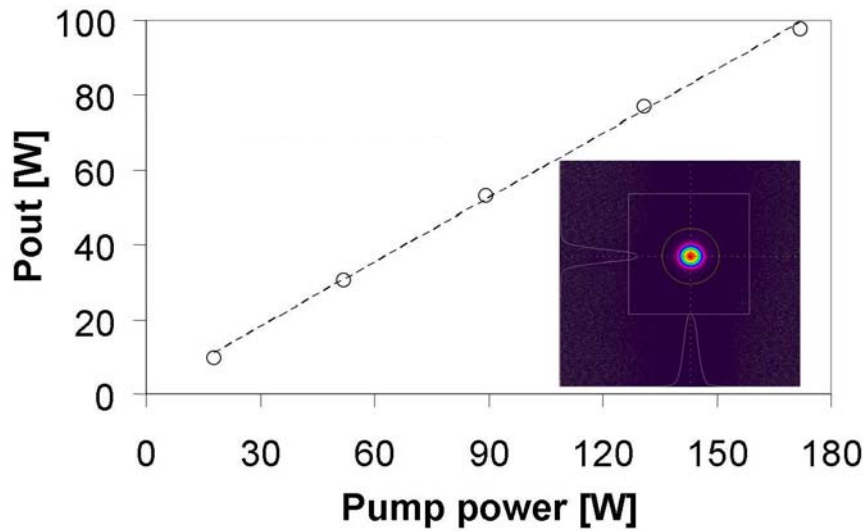
6 Fiber(s) protected within a metal cable.
Fiber length (outside the OE) > 0.5 m typical.

7 Input water pressure 2 bar max. Nominal cooling water temperature 17 - 20°C, flow > 5l/min.

8 Available for all 200/220 μm, 0.22 NA fiber coupled pump sources.

9 SMA connectors available for selected pump suppliers.

10 Collimated beam diameter 2 - 2.5 mm, 2.2 mm typical.

Typical performance data

> 50% optical-to-optical slope efficiency

Notice

nLIGHT continually improves its products to provide its customers with outstanding quality and reliability. nLIGHT may make changes to specifications and product descriptions at any time, without notice. In addition, nLIGHT offers a limited warranty to ensure customer satisfaction. For complete details, please contact your nLIGHT sales representative.