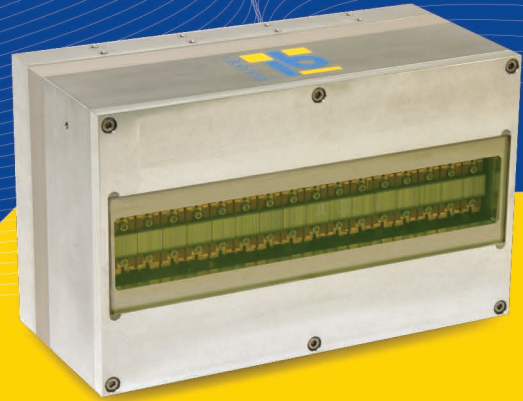


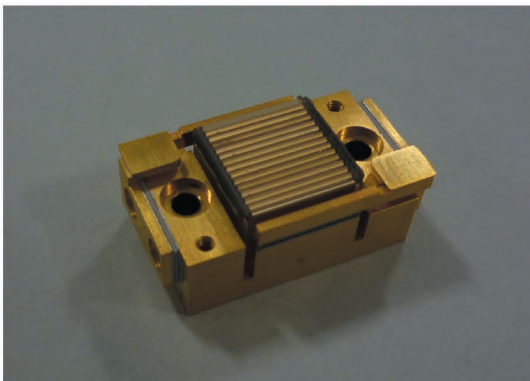
# Laser Diode Source



## High Efficiency High Power Laser Diode Source for pumping application

- Up to 120 kW in one line @ 940 & 980 nm
- Up to 250 kW @ 880 nm
- Up to 1 MW in 8 lines matrix array
- 880, 940 and 980 nm available

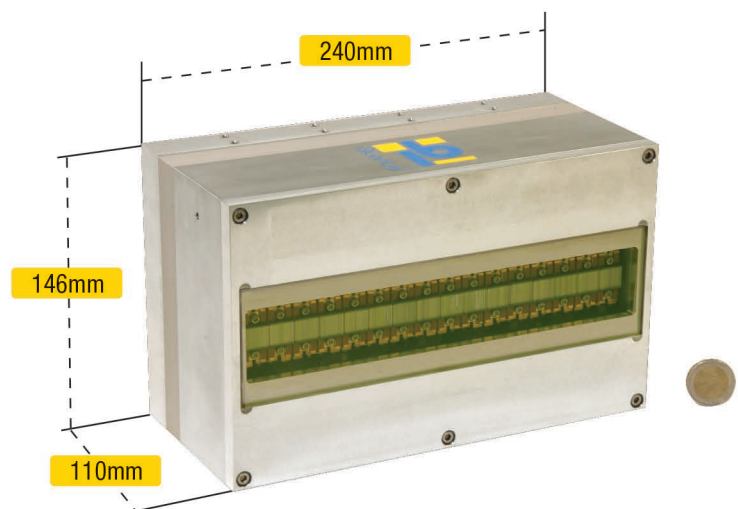
- Driver available in a separate rack or integrated to the source for 100 kW version
- Operating with non DI water from +10°C to +40°C
- Bar pitch 400, 800 or 1.2 mm upon energy per pulse
- Lifetime warranties from 1 to 10 Gshots upon energy per pulse



16 bars, 8 kW collimated stack

The source generates **up to 100 kW** power at 880, 940 or 980 nm with a pulse width up to 3 ms. The components have been designed to highest possible **efficiency** which leads to a **low power consumption, small spectral** width and low heat generation. Diodes are collimated in the fast axe at a pitch of 800  $\mu\text{m}$  (400  $\mu\text{m}$  for 1ms pulse width). The source has 16 stacks, 10 to 20 bars each depending on the final power requested assembled with very low gap between each stack. Other configurations up to 1 MW available on request.

The source is cooled by **standard water** (not DI). The water circuit is **physically separated from the diode** housing which eliminates any risk of water leakage on stacks (included in QLD warranties). Low pressure N2 purge is necessary when water temperature is below 20°C.



# Laser Diodes

## High Efficiency High Power Diode Laser Source for pumping application

Thanks to the very **low bar pitch** a very high brightness ( $> 4\text{MW/cm}^2/\text{sr}$ ) is achieved **without** polarization coupling of stacks. It avoids optical losses and expensive components. Furthermore the module has a **very small volume** and safes space on the optical table. All connectors are fixed on the back side of the source. Diodes are protected against humidity and dusty parts by a window with AR coating.

The laser source is ideally suited for **high energy laser pumping application** for Proton therapy, Physics research or nuclear markets.

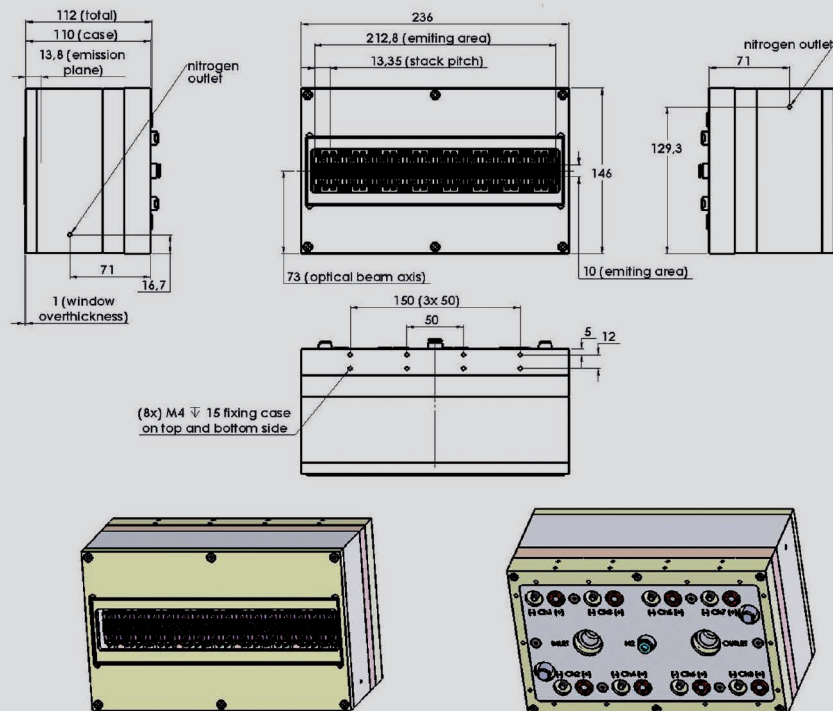
PARAMETER	UNIT	VALUE
PEAK POWER	kW	From 5 to 200
PULSE WIDTH (FWHM)	ms	0 to 3
REPETITION RATE	Hz	0 to 20
WAVELENGTH	nm	940 & 980
EFFICIENCY	%	Up to 65
BAR PITCH	$\mu\text{m}$	400 to 1200
FAST AXE DIVERGENCE	$^\circ$	0,5
SPECTRAL WIDTH	nm	< 6
OPERATING PULSED CURRENT	A	0 to 450
OPERATING TEMPERATURE	$^\circ\text{C}$	10 to 50
LIFE TIME	Gshots	> 1 Gshots
COOLING (CLEANED WATER)	l/mn	From 10 to 30
DIMENSIONS (L x W x H)	mm	240 x 150 x 110

Beam forming or homogenizer can also be proposed.

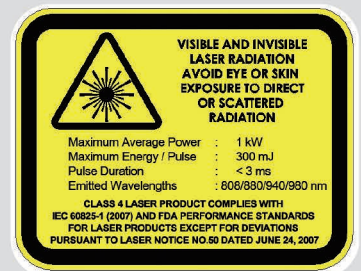
High peak power Driver is also available with the source (2 times 500 A under 100 V).

Two drivers are used for a 100 kW source.

An integrated driver, mounted on the back side of the source can also be proposed on request (no more cable).



For more information, please visit [www.quantel-laser.com](http://www.quantel-laser.com)



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