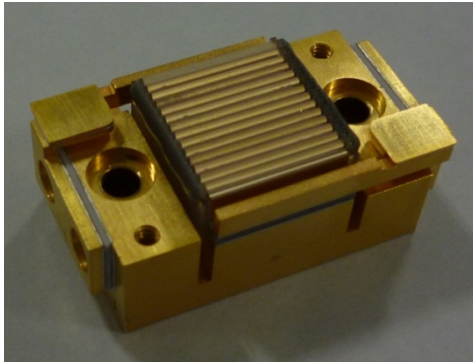


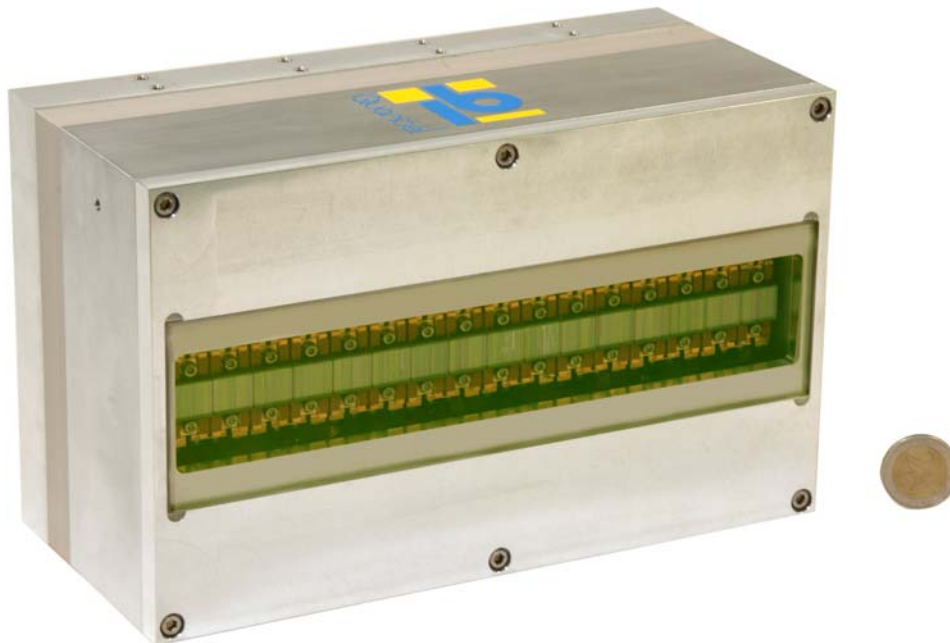
High Efficiency High Power Diode Laser Source for pumping application

The source generates up to 100 kW power at 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 axis at a pitch of 800 μm (400 μm 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.



16 bars, 8 kW collimated stack

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 N^2 purge is necessary when water temperature is below 20°C.



Thanks to the very low bar pitch a very high brightness ($> 4\text{MW}/\text{cm}^2/\text{sr}$) is achieved without polarization coupling of stacks. It avoids optical losses and expensive components. Furthermore the module has a very small volume and saves 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.

High Efficiency High Power Diode Laser Source for pumping application

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	µm	400 to 1200
Fast Axe Divergence	°	0,5
Spectral Width	nm	< 6
Operating pulsed current	A	0 to 450
Operating temperature	°C	10 to 50
Life time	Gshots	> 1 Gshots
Cooling (cleaned water)	l/mn	From 10 to 30
Dimension (L x W x H)	mm	240 x 150 x 110

Beam forming or homogenizer can also be proposed.

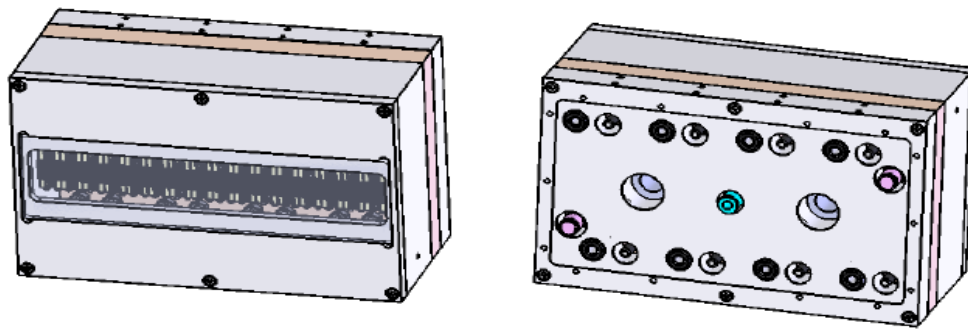
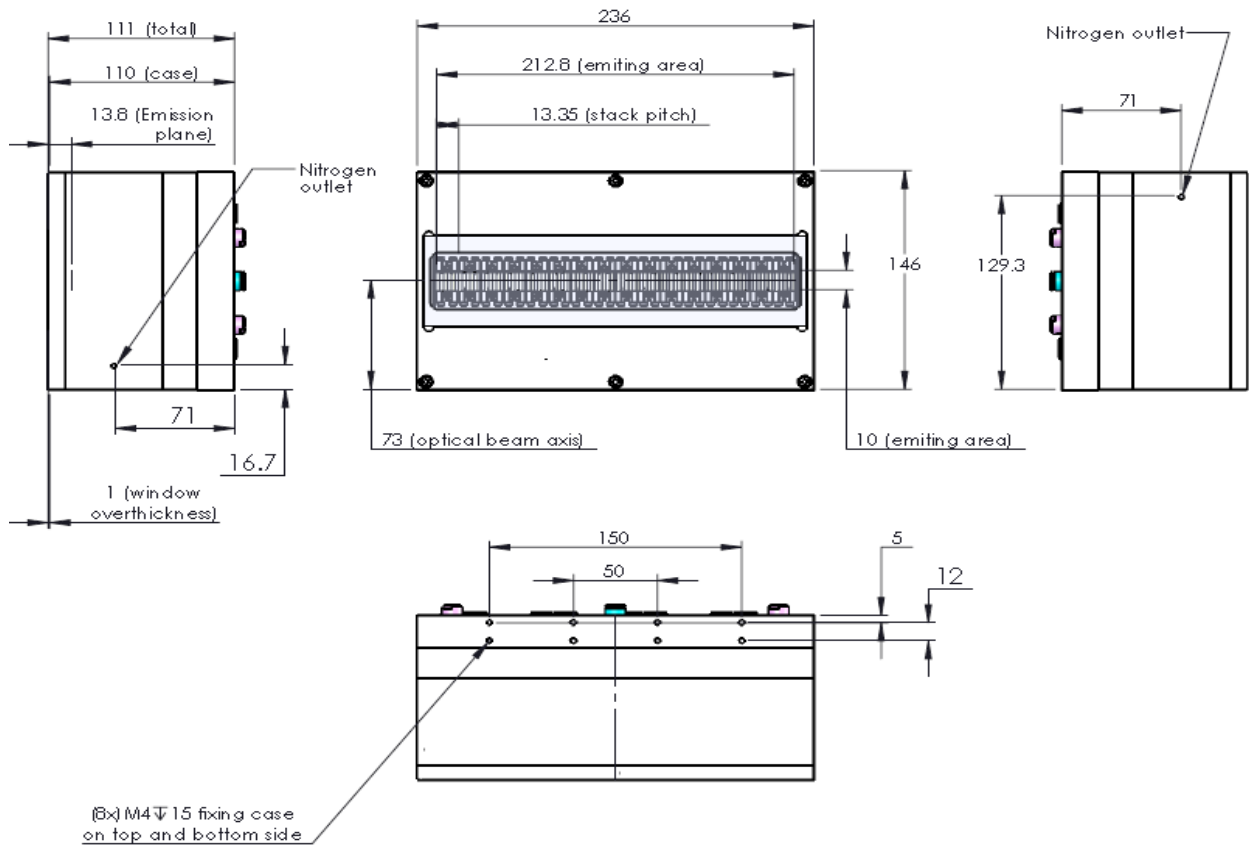
High peak power Driver is also available with the source (2 times 500A under 100V).



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).

High Efficiency High Power Diode Laser Source for pumping application



100 kW source drawing