

# Emerald Engine 516 nm / 1032 nm

## Green Pump Laser

- Emerald Engine is an Yb-fiber based pump laser with a pulse width of 2 ps, alternatively 6 ps. Emerald Engine Duo is equipped with a frequency doubling unit. Two beams are available: a frequency-doubled beam with 516 nm (> 3 W) and the undepleted fundamental beam with 1032 nm (> 0.75 W). The two beams are intrinsically synchronized and jitter-free.
- A high-power version with an output power of > 6 W for the frequency doubled beam and > 3 W for the fundamental beam is also available.



- Frequency doubled Yb-fiber laser
- Green and IR beam are intrinsically synchronized and jitter-free
- Offers pulses as short as 2 ps with a spectral width of only 10 cm<sup>-1</sup>
- Laser repetition rate stabilized by cooled base plate
- Windows based control software included
- Sync-out signal

## ... Specifications

### Specification for Version Basic Duo with 2 Outputs

	Basic Duo   MP-Basic Duo   HP-Basic Duo	HP-Basic Duo Longpulse
Pulse Width	~ 2.5 ps	~ 5.5 ps
Repetition Rate	80 MHz $\pm$ 0.15 MHz	80 MHz $\pm$ 0.15 MHz
Output	Frequency doubled	Frequency doubled
Wavelength	516 nm $\pm$ 0.75 nm	516 nm $\pm$ 0.75 nm
Output Power	> 3 W   > 4 W   > 6 W	~ 7 W
Polarization	Vertical	Vertical
Output	Fundamental undepl.	Fundamental undepl.
Wavelength	1032 $\pm$ 1.5 nm	1032 $\pm$ 1.5 nm
Output Power	> 0.75 W   > 1 W   > 1.5 W	~ 2 W
Spectral Width	~ 1 nm	~ 1 nm
Polarization	Horizontal	Horizontal

### Specification for Version Basic with 1 Output

	Basic Green Longpulse	HP-Basic Green Longpulse
Pulse Width	~ 5 ps	~ 5 ps
Repetition Rate	80 MHz $\pm$ 0.15 MHz	80 MHz $\pm$ 0.15 MHz
Output	Frequency doubled	Frequency doubled
Wavelength	516 nm $\pm$ 0.75	516 nm $\pm$ 0.75
Output Power	> 4 W	> 8 W
Polarization	Vertical	Vertical

### Dimensions and Power

Dimensions	730 mm x 345 mm x 163 mm (Laser) 330 mm x 197 mm x 279 mm (Chiller) 19" x 4 U (Electronics)
Power	100 ... 240 V, 50 ... 60 Hz, max. 1200 W (Laser, Chiller, Electronics)

### Drawings

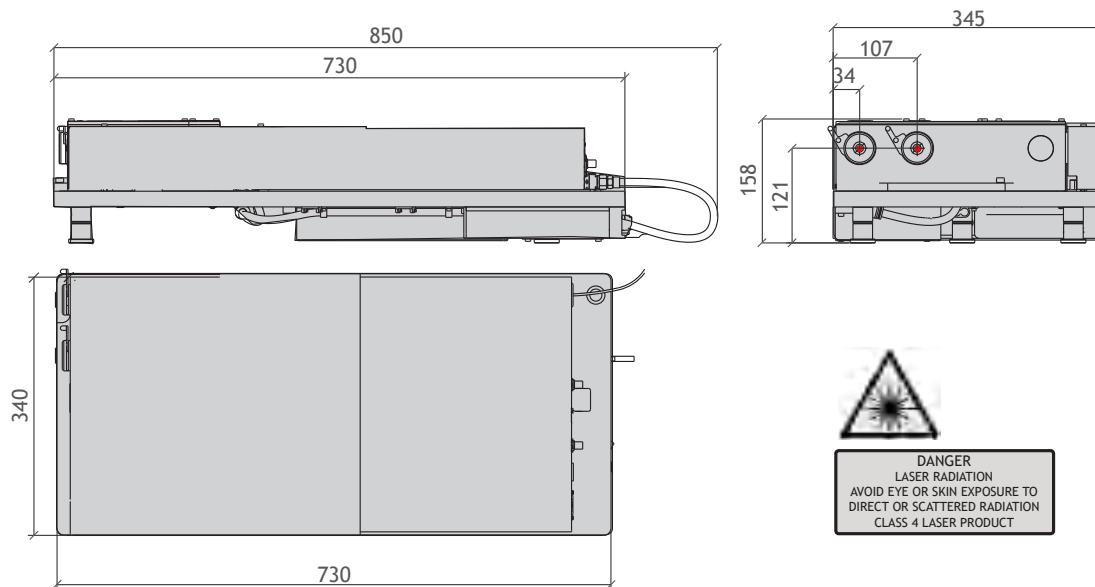
See appendix for details



**DANGER**  
LASER RADIATION  
AVOID EYE OR SKIN EXPOSURE TO  
DIRECT OR SCATTERED RADIATION  
CLASS 4 LASER PRODUCT

# Appendix Technical Drawings

All dimensions in mm



## Contact

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APE follows a policy of continued product improvement. Therefore, specifications are subject to change without notice.

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