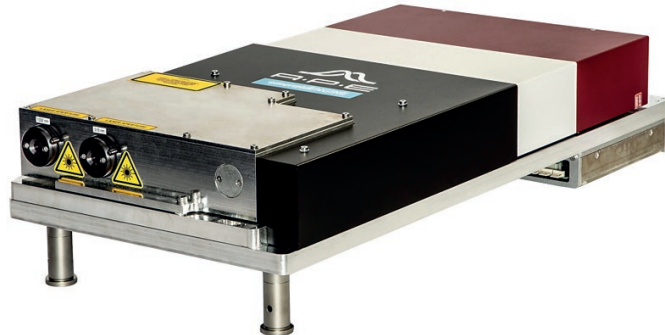


# Emerald Engine 516 nm / 1032 nm

## Engine Pump Laser

- Emerald Engine is an Yb-fiber based pump laser with a pulse width of 2 ps, alternatively 5 ps. Emerald Engine Duo is equipped with a frequency doubling unit. Two beams are available: a frequency-doubled beam at 516 nm (> 3 W) and the undepleted fundamental beam at 1032 nm (> 0.75 W). The two beams are intrinsically synchronized and jitter-free.
- A high-power version with an output power of > 7 W for the frequency doubled beam and > 3.5 W for the fundamental beam is also available.



- Yb-fiber laser-based
- Green and IR beam are intrinsically synchronized and jitter-free
- Offers pulses as short as 2 ps with a spectral width of only  $10 \text{ cm}^{-1}$
- Laser repetition rate stabilized by cooled base plate
- Windows based control software included
- Sync-out signal

## ... Specifications

### Specification Emerald Engine

	Emerald Engine	Emerald Engine	Emerald Engine	Emerald Engine	Emerald Engine	Emerald Engine	Emerald Engine	Emerald Engine	Emerald Engine	Emerald Engine
	Duo	Duo longpulse	HP Duo	HP Duo longpulse	Green	Green longpulse	HP Green	HP Green longpulse	IR	HP IR
Repetition Rate*	80 ± 0.15 MHz									
Wavelength 1	516 ± 0.75 nm								N.A.	
Output Power 1*	> 3.0 W		> 6.5 W		> 3.5 W		> 7.0 W		N.A.	
Pulse Width 1	~ 2.0 ps	~ 5.0 ps	~ 2.0 ps	~ 5.0 ps	~ 2.0 ps	~ 5.0 ps	~ 2.0 ps	~ 5.0 ps	N.A.	
Spectral Bandwidth 1	< 0.5 nm (< 20 cm <sup>-1</sup> )								N.A.	
Polarization 1*	Vertical								N.A.	
Wavelength 2	1032 ± 1.5 nm				N.A.				1032 ± 1.5 nm	
Output Power 2*	> 0.75 W		> 1.0 W		N.A.				> 8.0 W	> 16.0 W
Pulse Width 2	~ 2.0 ps	~ 5.5 ps	~ 2.0 ps	~ 5.5 ps	N.A.				~ 2.0 ps	~ 2.0 ps
Spectral Bandwidth 2	~ 1 nm (~ 10 cm <sup>-1</sup> )				N.A.				~ 1 nm (~ 10 cm <sup>-1</sup> )	
Polarization 2	Horizontal				N.A.				Horizontal	

\* Customized alternatives on request

### 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

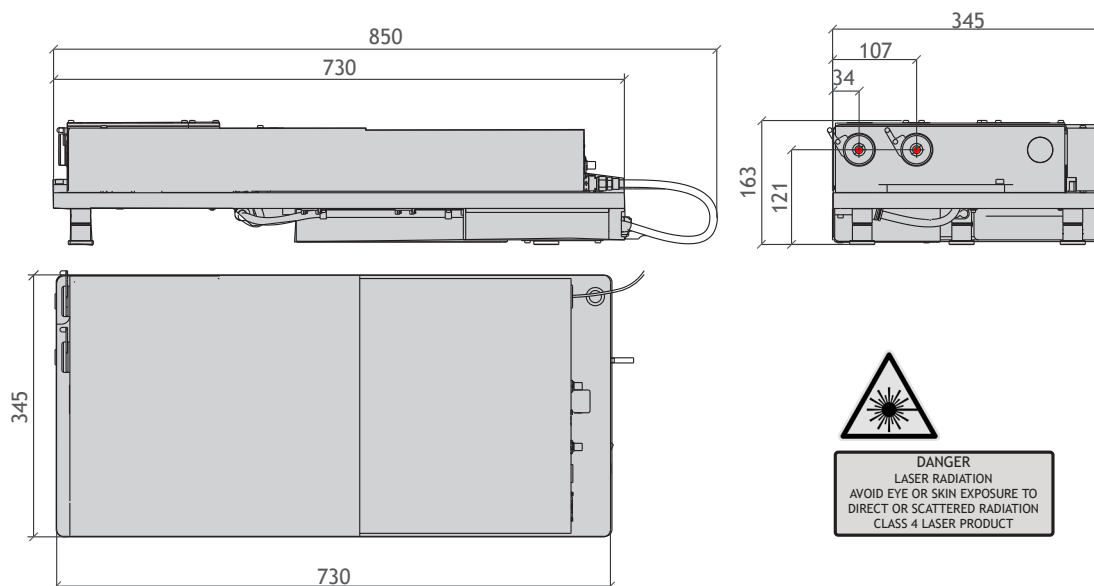
See appendix for details



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

# Appendix Technical Drawings

All dimensions in mm



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

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