

DIADEM Series

Compact, high-energy femtosecond laser



DIADEM produces high energy with femtosecond (<500fs) pulses, in a compact and robust format. Offering one of the World's lowest cost of ownership, high precision and ease of integration, DIADEM is ideally suited for industrial applications such as glass engraving or micron-scaled features drilling/cutting used in a wide variety of market segments.

From single shot to 1 MHz, its efficient, industrial GUI is Industrials best ally to fine tune even the most challenging processes whatever the PRF.

DIADEM embeds perfectly into any kind of systems working in a 24/7 operating environment, year wide. Its very reduced footprint, weight and capital investment make it the money-maker you need.



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DIADEM Key Features

- Up to 30W at 1030 nm
- < 500 fs pulses
- Up to 30 μ J @ 1 MHz
- PRF range single shot to 1 MHz
- Seeder burst mode
- $M^2 < 1.2$
- Rugged design
- Maintenance free
- Worldwide warranty coverage 24 months

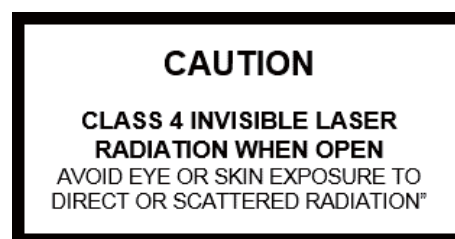
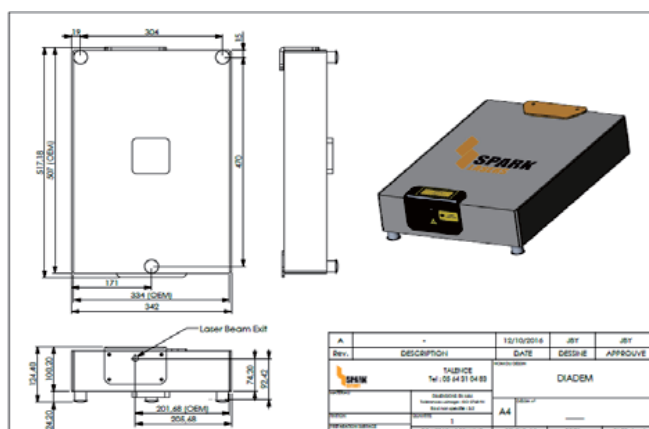
DIADEM applications

- Consumer Electronics
- Automotive/Aerospace
- Medical & Bio-Medical
- Semiconductors

Technical Specifications*

Model	DIADEM IR-10**	DIADEM IR-30**
Wavelength	1030 nm	
Spectral width	< 8 nm	
Pulse duration	<500 fs	
Pulse energy	20 µJ at 100 kHz (2 W) 20 µJ at 200 kHz (4 W) 20 µJ at 500 kHz (10 W) 10 µJ at 1 MHz (10 W)	30 µJ at 100 kHz (3 W) 30 µJ at 200 kHz (6 W) 30 µJ at 500 kHz (15 W) 30 µJ at 1 MHz (30 W)
Repetition rate	Single pulse to 1 MHz (with burst mode)	
M ²	<1.2	
Beam waist diameter	2 mm	
Beam divergence	<1 mrad	
Beam pointing	<25 µrad/°C	
Ellipticity	>0.85	
Warm-up time	< 15 min	
Power stability	<2% RMS	
Pulse stability	<2% RMS	
Polarization	vertical, >100:1	
External Interfaces	High speed External synchronisation (Sync. Out / In), Communication through USB, RS 232	
Software interfaces	Intuitive GUI, DLL and Serial communication Protocol	
Laser head dimensions (mm ³)	518 x 342 x 125	
Laser controller dimensions	19"/3U rack	
Standard umbilical length	3 m	
Power consumption	100 to 240 VAC < 400 W	
Cooling	Air cooled	
OPTION	Tunable pulse duration from < 500 fs up to 10ps	

* Specifications subject to change without notice. ** Other wavelengths available upon request
For custom specifications, please contact us



SPARK LASERS offers a 24-month warranty for all DIADEM laser range.

For full details of this warranty coverage, please refer to our website www.spark-lasers.com or contact us at +33 564 310 484



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