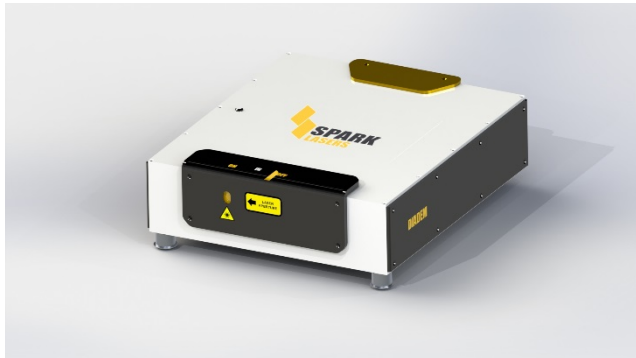


DIADEM Series

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.



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

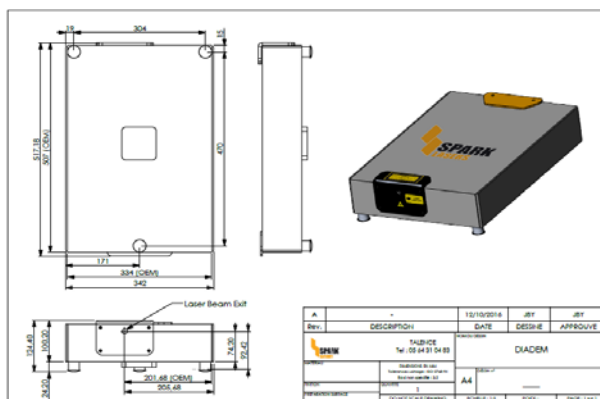
DIADEM applications

- 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



CAUTION
CLASS 4 INVISIBLE LASER
RADIATION WHEN OPEN
AVOID EYE OR SKIN EXPOSURE TO
DIRECT OR SCATTERED RADIATION®

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