

Bright

Ultrafast kHz Series



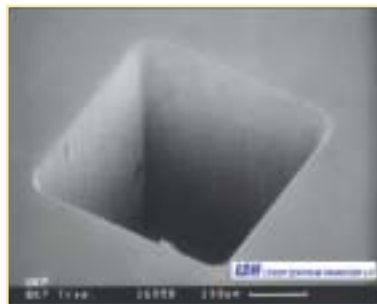
Diode-Pumped
Multi-kHz
Ultra
Compact
Ti:sapphire

Bright brings together Ti:sapphire technology and industrial requirements for the first time to offer the most adequate tool for micromachining and research applications.

This new generation femtosecond laser presents unmatched multi-kHz performances such as high pulse energy, superior stability and unprecedented beam quality to satisfy ultra high precision processes.

Diode pumping technology provides a reliable and compact laser system that is alignment-free by means of a sophisticated computer interface. Its user-friendly dedicated software offers full-control and allows any operator to set custom parameters such as energy, pulse duration or mode of operation (single shot, burst generation).

Bright is the first femtosecond system specially designed to achieve turn-key operation and to initiate industrial micro-machining in factory environment.



Glass drilling

Features

- 1 to 5 kHz operation
- Up to 500 μ J @ 3 kHz, 800 nm
- Up to 1.5 W average power
- Smooth beam profile $M^2 < 1.2$
- Jade DPSS pump laser
- Versatile operation through computer interface
- Int/Ext synchronization
- Autocorrelator and harmonic generators available

Applications

- Micro machining
- Micro electronics
- Glass machining
- Heat-sensitive materials processing
- Instrumentation
- Scientific

Output Specifications

Repetition rate (kHz)*	1 to 5
Wavelength (nm)	785 ± 10 nm
Typical spectral width (nm)	7.5
Pulse duration (fs)	< 150
Average power (W)	1.5
Pulse-to-pulse stability (% rms)	< 1.3
Pointing stability (µrad)	± 30
Power drift (long term) (%)	1
Pre-pulse contrast ratio	> 500 : 1
Post-pulse contrast ratio	> 100 : 1
Typical picosecond contrast	> 10,000 : 1 @ 1 ps > 100,000 : 1 @ 5 ps > 1,000,000 : 1 @ 10 ps
Beam profile	Quasi-Gaussian
Typical M ²	< 1.2
Pump system	JADE

* Factory preset at one repetition rate.

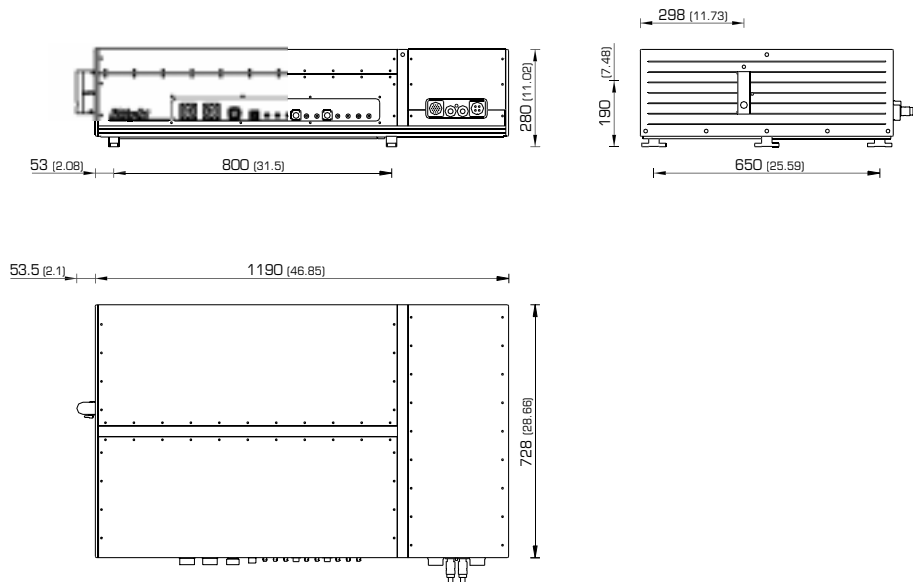
Specifications are given at 5 KHz with an IMRA femtosecond oscillator unless otherwise specified.
EN ISO 14644-1 : 1999 Class 8.

Utilities

Power requirements	Voltage	200 – 220 VAC
	Current	32 A single phase
Operating temperature	20 ± 2 °C	
Relative Humidity	< 60 %	
Clean room class	< 100 000	

Capabilities

Fully computer controlled
Internal and external synchronization (single shot or burst generation)
Autocorrelators available on request
Harmonic generators available on request (450 µJ @ 390 nm and 120 µJ @ 260 nm)



Dimensions are given in mm (in).

Due to Thales Laser continuous product improvement policy, specifications are subject to change without notice.

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