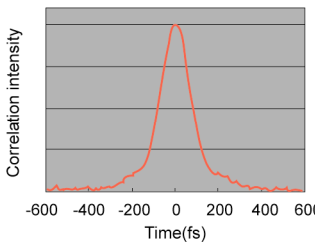
IFRIT

High power industrial femtosecond laser IFRIT

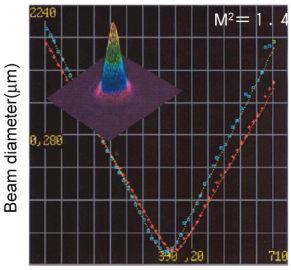
Characteristics	Continuous operation over 1000 hours without calibration Highest stability in the world Smallest form-factor in the world
Applications	Femtosecond material processing Generation of plasma, spectroscopy Seeder to OPO
Options	Spatial phase modulator SHG/THG unit Collimiator, power regulator Pulse duration measurement instrument 3D material processing apparatus

Femtosecond lasers are expected for high-value added applications such as precision processing of optical communication devices, metallic parts, transparent materials, and semiconductors as well as biomedical, chemical, analytical, and measurement uses. Meanwhile, the femtosecond generation technology so far has been limited to scientific fields, and not considered fit for industrial fields where long-life and stability are must-have features. With Cyber Laser's IFRIT, you can expect over 1000 hours of continuous operation and four consecutive months of continual operation without calibration in a typical industrial environment where temperature and humidity are not controlled. With world class stability, maintenance-free operation, long life, and world's smallest form-factor, femtosecond laser IFRIT enables many advanced applications formerly unthinkable.

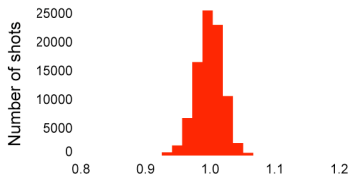
Product name	IFRIT
Wavelength	780nm
Maximum power	1W
Repetition rate	1kHz
Pulse duration	130fs
Pulse energy	1mJ
Output energy stability	0.9% for 100 hours
Beam diameter	6mmϕ
Spatial beam quality	TEM_{00} M^2<1.5
Size	W600 x D800 x H290
Weight	180kg
Power supply	power1, chiller1
Electrical power	100V/20A+200V/10A



Pulse waveform



Spatial beam quality

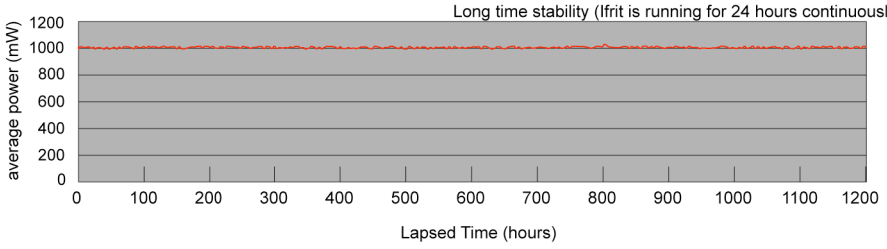


Energy stability

Laser Specifications

- The specifications of IFRIT are targeted at 1-kHz repetition, 1-W average power, and 130-fs pulse duration, which is the largest common denominator for a variety of already-existing applications.
- As for the spatial beam quality, its M-squared value is less than 1.5, meaning single-mode operation.
- The fluctuation of the femtosecond laser output is less than 0.3% over 10 hours and less than 0.9% over 100 hours. Shot-to-shot energy deviation is also less than 0.3%. The IFIRT provides the light that satisfies you with any applications.

Long time stability (Ifrit is running for 24 hours continuously)



*Specifications in this document are subject to change without notice.