

### Features

- \* Energy per pulse up to 40μJ
- \* Average power up to 20W
- \* All-fiber design, industrial reliability
- \* High peak power up to 50MW
- \* Polarization-maintaining
- \* RS-232 interface for local supervision.

### Applications

- \* Material processing
- \* Semiconductor inspection
- \* Harmonic generation
- \* OPO pumping
- \* Pump-probe

### Description

**GIP Technology** High Energy Femtosecond Ytterbium Fiber Laser Unit (LAS-YFL-FS-HE-U) is the 1μm band femtosecond fiber laser source, delivering high pulse energy (up to 40μJ) and high peak power (up to 50MW) and high pulse energy in standalone size for material processing, semiconductor inspection, and supercontinuum generation applications.



All-fiber design and splicing technology make the laser more compact compared to traditional rod or disc DPSS lasers. The peak intensity of a laser pulse with a duration of only a few picoseconds is so high that nonlinear/multi-photon absorption occurs, resulting in a very precise "cold" process with little thermal effect.

In addition, these units also provide a user-friendly status monitoring via an LCD display, LED indicators, and various communication interfaces (RS232/USB).



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### Specifications

Optical Information		Unit	Description			
Saturated output power	Max.	Watt	2	5	10	20
Mode of operation			Pulsed			
Center wavelength* <sup>1</sup>		nm	1030 or 1064			
Pulse repetition rate		MHz	0.1 ~ 5			
Pulse duration* <sup>2</sup>	Max.	fs	350	500		
Pulse energy	Max.	μJ	2	5	20	40
Beam quality	Max.	M <sup>2</sup>	1.2	1.3	1.4	1.4
Polarization			Linear			
Polarization extinction ratio	Min.	dB	20		17	
Termination			Free space, collimated beam			
Electrical Information						
Operating voltage		Volt	100 ~ 240VAC, 50/60Hz			
Control mode			ACC			
Control interface			RS-232/USB			
Pulse timing			External trigger, TTL			
Environmental Information						
Operating ambient temperature		°C	15 ~ 35			
Storage temperature		°C	0 ~ 60			
Relative humidity (non-condense)		%	5 ~ 85 (operating)			
Cooling			Air cooling or Water cooling			
Mechanical Information						
Control Unit Dimensions (W x L x H)		mm	19" 3U			
Optical Head Dimensions (W x L x H)		mm	430 x 320 x 200		550 x 450 x 230	

\*1. Other wavelength on request.

\*2. A Gaussian pulse shape is used to determine the pulse width from the autocorrelation trace.