FML-15-B

DEVICE

Femtosecond Mode-Locked Laser, Benchtop

OVERVIEW

The Optilab FML-15-B Femtosecond Mode-Locked Laser (FML) Benchtop utilizes a proprietary Saturable Absorber (SA) for passive mode locking, delivering femtosecond pulses with an excellent power stability and reliability. Designed with no moving parts, and requiring no polarization controller, the compact FML-15-B is built with highly qualified photonics components to provide an operational lifetime of 10+ years. The pulse width is factory selectable from 200 fs and up, with near transform-limited pulse shape and a better than 20 dB pedestal, and the pulse repetition rate can be specified from 10 to 100 MHz with a single mode (SM) fiber output. Contact Optilab for more information.

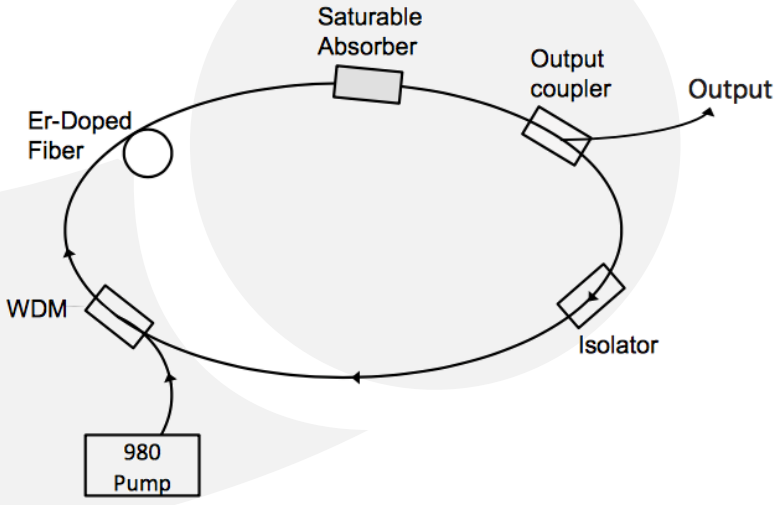
FEATURES

- All Fiber base requires no adjustment
- 1540 to 1560 nm peak wavelength
- Near transform-limited output
- Peak Pulse Power: 4 kW typ.
- Pulse width from 200 fs
- 30 mW output type.
- Pulse Energy: 1nj
- Electrical trigger output

USE IN

- Super continuum generation
- Telecom components characterization
- Optical high speed sampling
- Terahertz's radiation
- Optical switching
- Materials characterization
- Optical metrology

FUNCTIONALDIAGRAM



FML-15-B

SPECIFICATIONS

GENERAL

Output Power	30 mW typ.
Peak Wavelength	1540 nm – 1560 nm, others available
3 dB Spectral Bandwidth	20 nm – 35 nm, typ.
Pulse Duration	200 fs and up
Pulse Repetition Rate	10 MHz – 100 MHz
Peak Pulse Power	4 kW typ.
Pulse Energy	1 nJ
Trigger Output (optional)	Pulse converted to electrical output

MECHANICAL

Operating Temperature	+5°C to +50°C
Storage Temperature	-55°C to +85°C
Optical Connector	FC/APC, others optional
Electrical Connector	SMA Female
Remote Control	RS-232 Interface
Dimensions	14" x 11" x 4"
Accessories Included	110 V – 140 V AC Adaptor and Cable

ORDERING OPTIONS

FML-15-B-XX
XX TG: Trigger Out

SAMPLE MEASUREMENT RESULTS

Parameter	Unit	Main Output	Tap Output
Peak Wavelength	nm	1575	1567
Linewidth	nm	35	29
Average Power	mW	28.18	1.62
Repetition Rate	MHz	30.27	
Pulse Width*	fs	235	211
Pulse Energy	nJ	0.93	0.05
Peak Power	kW	3.96	0.25

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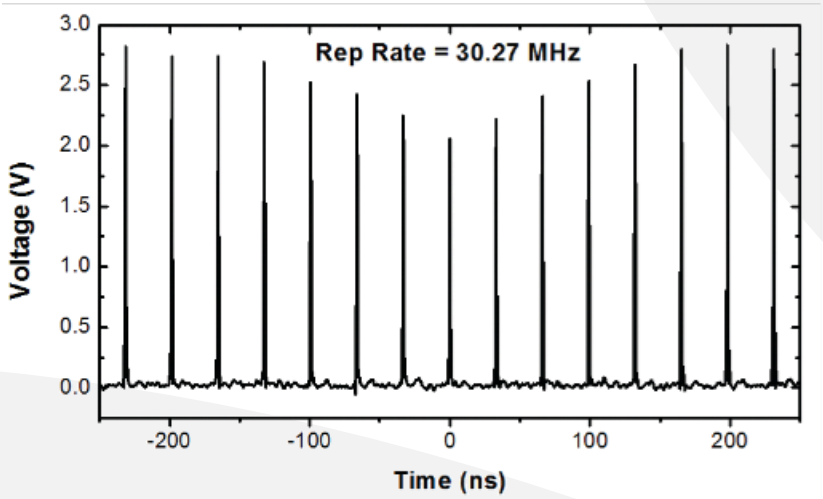

Figure 1: Repetition Rate Measurement

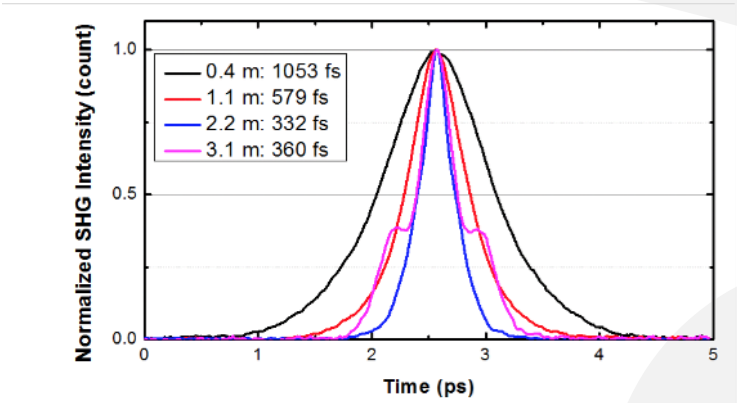

Figure 3: Autocorrelation measurement of main port output measured with four different output coupling fiber: 0.36 m, 1.1 m, 2.2 m and 3.1 m long, with FWHM at 1053, 579, 332 and 360 fs respectively.

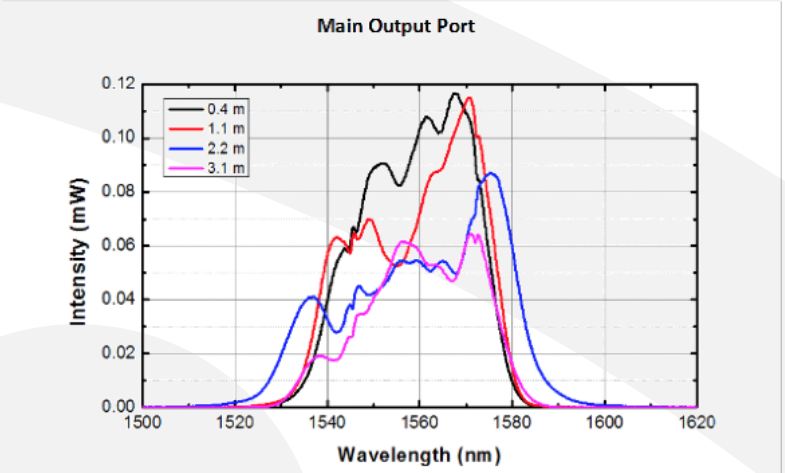

Figure 2: Main output spectrum measured at output coupling fiber of 0.36 m, 1.1 m, 2.2 m and 3.1 m length.