

# Cavityless™

## Tunable Picosecond Pulse Source



Free from the typical constraints inherent to cavity-based mode-locked lasers, the **Cavityless™ Series** is the ultrafast first fiber laser to combine ultra-low jitter, seamless wavelength tunability, and continuously programmable repetition rate that simply cannot be matched by conventional mode-locked technology.

### KEY FEATURES

- Mode-hop-free C+L tunability
- Low jitter (< 45 fs)
- Short pulses (< 2.5 ps)
- High repetition rate:
  - *Up to 50 GHz, selectable*
- High power (>50 mW)
- “Instant-on” turn-key operation
  - *No cavity stabilization or locking*

### APPLICATIONS

- >100 Gb/s (OTDM) networks
- Optical sampling
- Ultrafast spectroscopy
- Frequency metrology
- Sensing and ultrafast imaging
- Material and component characterization

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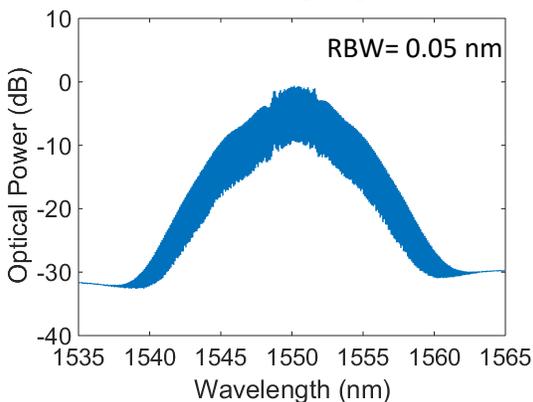
## Tunable Picosecond Pulse Source

### SPECIFICATIONS

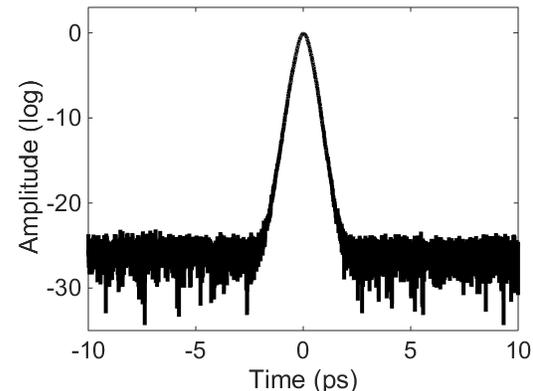
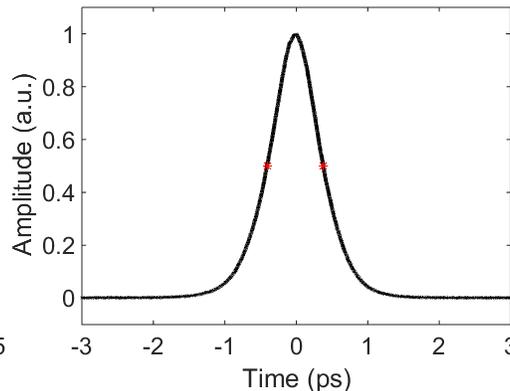
*Due to our continuous improvement program, specifications are subject to change without notice.*

	Typical configuration	Options	Unit
<b>Pulse Repetition rate</b>	10	5-50, selectable <sup>(1)</sup>	GHz
<b>Pulse Width</b>	≤ 2.5	≤ 1.0 <sup>(2,3)</sup>	ps
<b>Temporal Jitter</b>	≤ 45	≤ 25 <sup>(4)</sup>	fs
<b>Time-Bandwidth Product<sup>(5)</sup></b>	≤ 0.60	-	-
<b>Output Power</b>	40	other	mW
<b>Amplitude Noise</b>	< 1	-	%
<b>Extinction Ratio</b>	20	10, 30	dB
<b>Wavelength Range</b>	non-tunable C-band	Tunable C ,C+L, L-only, optical input	-
<b>Output Type</b>	FC-APC/ SMF-28	FC-PC/PM or other	
<b>Synchronization</b>	Internal <sup>(6)</sup>	External (user input)	
<b>Power Consumption</b>	100		W

- (1): Integrated pulse picker    (4): External synchronization required for non-fixed repetition rate  
 (2): Single band only            (5): Measured as 3dB widths in time and spectrum  
 (3): Limited tuning range        (6): With clock output for use as synchronization source



**Typical spectra of the output of the Cavityless™ pulse source for sub-picosecond pulse width.**



**Auto-correlation traces of the Cavityless™ pulse source with sub-picosecond pulse width, in linear (left) and logarithmic (right) scales showing excellent pulse shape with high extinction ratio.**