

# TPSR-V – TUNABLE PULSE STRETCHER FOR ULTRAFAST LASER

**The PowerSpectrum™ – Tunable Pulse Stretcher is a compact, robust and cost-effective solution to control pulse durations in ultrafast laser systems using a volume Bragg grating (VBG) compressor.**



TeraXion's PowerSpectrum™—TPSR-V guarantees optimal peak power as well as dynamic and precise pulse control in any circumstance. It improves laser performance by compensating the group delay error of volume Bragg grating (VBG) compressors, and contributes to forming the smallest stretcher-compressor pair in the industry.

Each PowerSpectrum™ – TPSR-V is paired in-house to a specific volume Bragg grating (VBG) compressor, greatly improving the robustness of the laser through simpler and fewer optics alignments at the compression stage. Its flexible software options make it easy to integrate within any design and allow for a fully electronic calibration of laser systems, resulting in shorter cycle times, increased throughput and lower operating costs.

## Features

- Factory-paired to the VBG
- Electronic pulse duration tuning up to 50 ps
- High-order dispersion tuning
- Custom spectral shape
- RoHS compliant

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## Benefits

- Virtually eliminate hardware alignment servicing
- Actively compensate self-phase modulation
- Increase laser versatility

## General Specifications

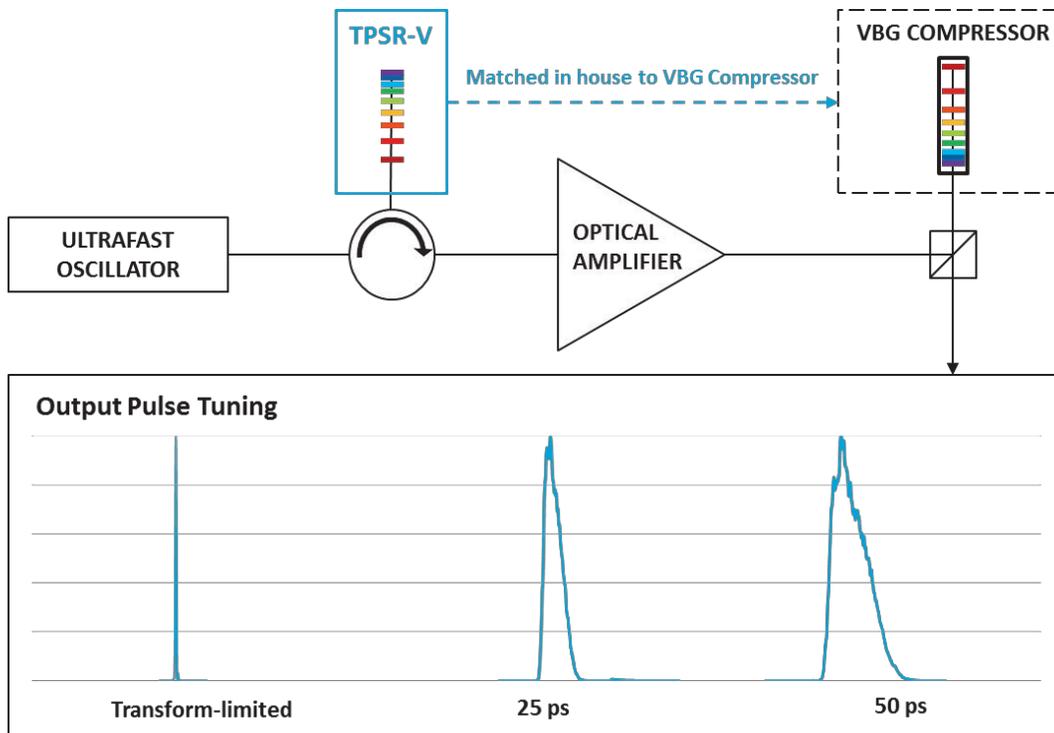
Parameters	Specifications
Center Wavelength <sup>(1)</sup>	1 μm band
Minimum Input Pulse Duration	≥ 150 fs
FBG Spectral Shape <sup>(2)</sup>	Customizable
Total Stretching Window <sup>(3)</sup>	≤ 500 ps
Volume Bragg Grating Compressor Matching	GD Function and phase error matching
Pulse Tuning	From Transform-limited up to 50 ps
Dispersion Tuning	D <sub>2</sub> , D <sub>3</sub> and D <sub>4</sub>
Fiber Type	PM
Module Dimensions	14 x 22 x 130 mm
Control	USB / I <sup>2</sup> C

(1) Other wavelengths available upon request

(2) Amplifier gain bandwidth enhancement available upon request

(3) Other stretching windows available upon request

## Chirped-Pulse Amplification with a VBG Compressor



## Software Platform

Get precise control over output pulse duration and peak power in any laser configuration and environmental condition with TeraXion's user-friendly software interface.

Easily handle multiple jobs on the same laser set-up by saving pulse settings.

Integrate the TPSR within any laser electronic interface and power supply via a 5-volt input or I<sup>2</sup>C.

## Ordering information

For orders, questions, specific requirements or to learn more about TeraXion's products, contact us at

[info@teraxion.com](mailto:info@teraxion.com)

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