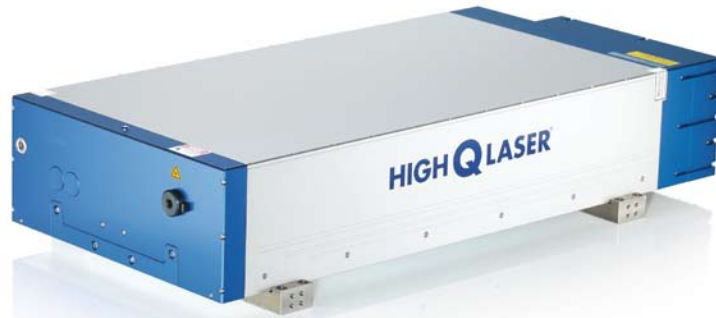


femtoTUNE™ SH

Noncollinear optical parametric amplifier (NOPA)



femtoTUNE™		
Pump source	femtoREGEN™ INDUSTRIAL	femtoREGEN™ SCIENCE
	minimum 16 µJ, < 400 fs, 1045 nm, up to 500 kHz	maximum 200 µJ, < 400 fs, 1035 nm, up to 10 kHz
Wavelength range	signal 650 nm to 900 nm	
	idler: NIR, MIR and IR range on request	
Pulse energy	> 1 µJ at 500 kHz @ 700 nm	typical 10 µJ at 10 kHz @ 700 nm
Pulse duration	< 300 fs	
Beam quality	$M^2 < 2$ (signal)	
Bandwidth	depending on desired pulse length, TBWP typically < 0.7	
Polarization	horizontal (signal and idler)	
Size	393 x 825 x 175 mm ³ (w x l x h)	

Options

Pulse energy	> 0.8 µJ after compression	typical 8 µJ after compression
Pulse duration	< 30 fs @ 80 % efficiency after compression	
Sum frequency generation	signal + pump: 400 nm to 480 nm	
2 nd harmonic generation	SHG signal: 330 nm to 450 nm	

Key features

Optimized for operation with femtoREGEN™ as pump source	Pulse duration below 30 fs with compression
Multiple femtoTUNE™ SH modules can be pumped by a single femtoREGEN™	Optimized for a repetition rate up to 500 kHz
Integrated second harmonic generation of pump source	Manual wavelength tuning
Compact and flexible design	

Description

The principle of operation is based on noncollinear parametric amplification of a white-light continuum in a nonlinear crystal. A single stage noncollinear amplification scheme is used. The noncollinear amplifier is pumped by the SHG of femtoREGEN™ INDUSTRIAL or femtoREGEN™ SCIENCE. SHG is integrated in the femtoTUNE™.

A small fraction of the incoming 1045 nm pulse is used to create a white-light continuum. After amplification, signal pulses can be compressed using a pair of fused silica prisms (optional). The output bandwidth can be controlled by dispersion management in the white-light path before amplification. The wavelength range can be extended via sum frequency generation or SHG.