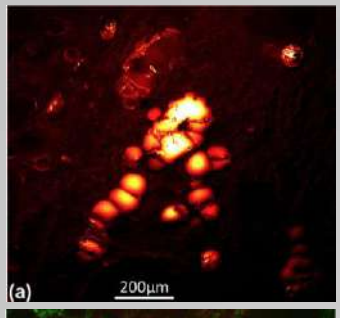
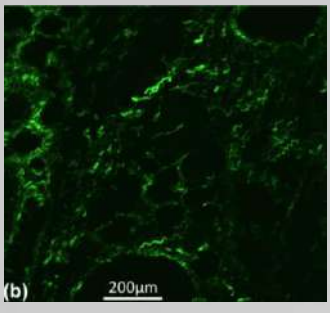
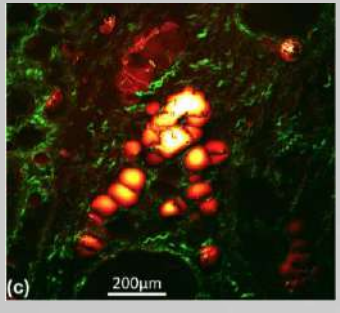
DUAL-WAVELENGTH FIBER LASERS (DWFL-3150) FOR CARS MICROSCOPY

Member of the TRUMPF Group

2750 cm^{-1} – 3150 cm^{-1}	
10 MHz	
Pump	**Stokes**
<55 cm^{-1}	<15 cm^{-1}
100 mW	150 mW







Courtesy of IPHT Jena

EXEMPLARY IMAGES

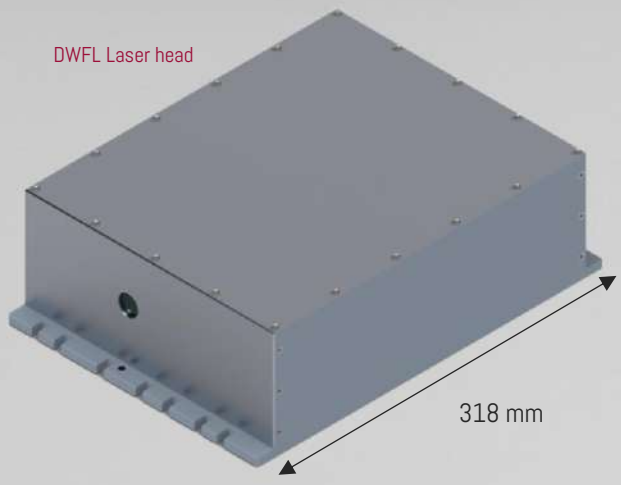
CARS: CH-stretching vibrations

- lipid plaques
- nr-background: < 10%

SHG from collagen

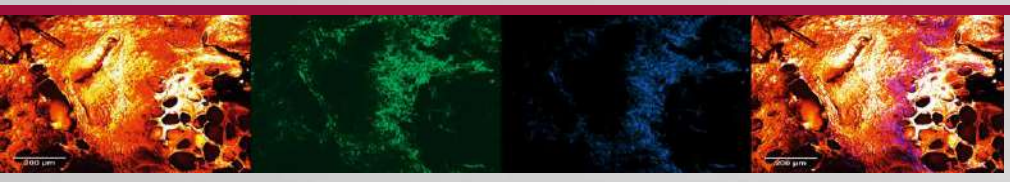
TPEF signal of elastin

DWFL Laser head



DWFL Power supply

Key Features
< 1 min warm-up time
< 5 s full range tuning scan time
RS232 / Software API interface
Tunable pulse delay
Alignment free



Multimodal composite image of human connective tissue showing an overlay of CARS (red), SHG (blue) and TPEF (green) signals. Courtesy of IPHT Jena

MORE INFORMATION

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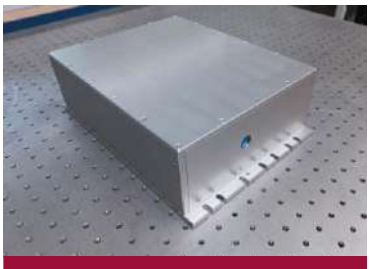
DUAL-WAVELENGTH FIBER LASERS (DWFL) FOR CARS MICROSCOPY

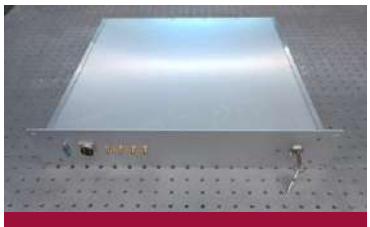
Member of the TRUMPF Group

	DWFL-3150
Tuning range (wavenumbers)	2750 cm^{-1} ... 3150 cm^{-1}
Output wavelength range (pump)	775 nm ... 806 nm
Output wavelength range (Stokes)	1025 nm ... 1035 nm
Spectral width Pump / Stokes	< 55 cm^{-1} / < 15 cm^{-1}
Repetition rate Pump & Stokes	10 MHz ± 100 kHz
Tuning speed	< 5 s for a scan over the entire tuning range
Average power Pump / Stokes	> 100 mW / > 300 mW
Average power stability	< 1.5% RMS over 12 h
Pulse duration Pump / Stokes	< 25 ps / < 40 ps
Polarization	Linear
Beam quality (Pump & Stokes)	M^2 < 1.3 (fiber-coupled)
Spatial overlap	Standard: one output, adoptable to two if needed
Temporal overlap	Passively overlapped or actively adjustable to compensate dispersion effects in attached microscope
Power tunability	Outputs can be tuned independently from 5% to 100% power while maintaining pulse duration and bandwidth
Control interface	Software API, RS232
Dimensions (W × D × H)	318 mm x 230 mm x 100 mm
Mass	< 60 kg
Miscellaneous	< 500 W power consumption / air-cooled / < 1 min warm-up time

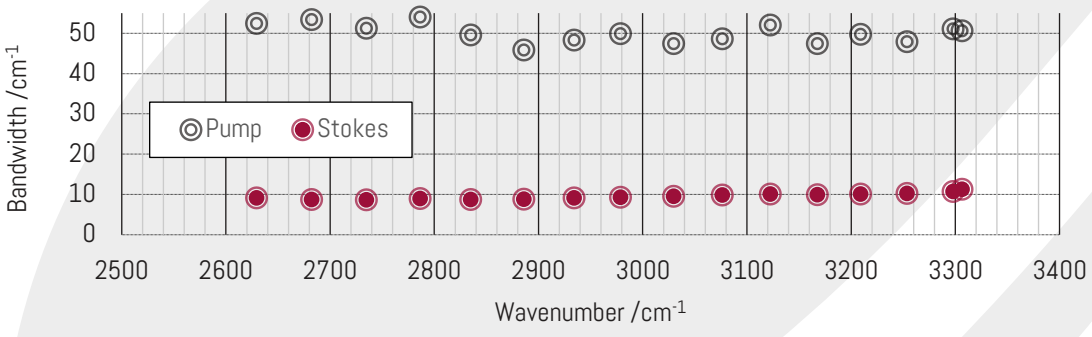


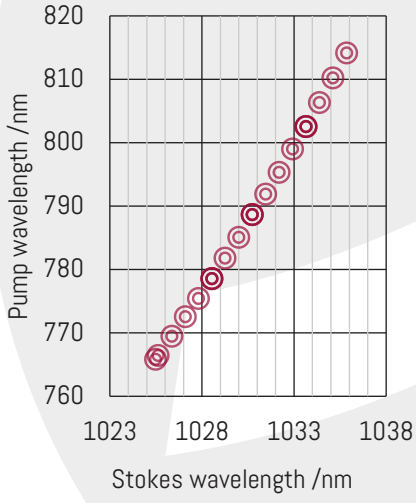
Laser system

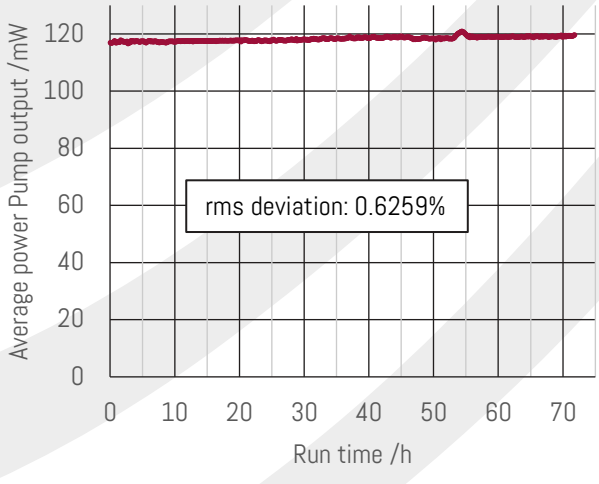
Control unit



Power supply for 19-inch rack







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