COHERENT®

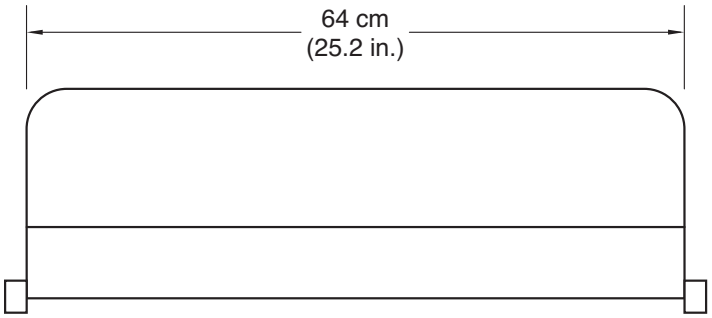
TOPAS-800-fs

Ultrafast Optical Parametric Amplifier

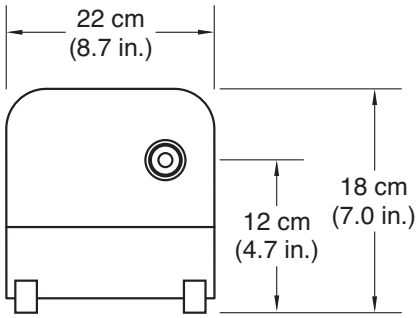
Features

- Computer-controlled tunable output
- Energy conversion >25% to parametric light
- Low output noise due to white-light seeding
- Standard, modular options for extended tuning from 240 nm to 20 µm (1150 to 2600 nm standard)
- Specified for operation with any standard Legend™, Libra™ or Hidra amplifier (40/130 fs, 1 to 5 kHz, 0.2 to 3.5 mJ per pulse)
- Multiple OPAs can be pumped with one Ti:Sapphire amplifier
- High pump-energy models available (up to 10 mJ)
- Picosecond models available

Mechanical Specifications



Side View



Front View

Superior Reliability & Performance

TOPAS-800-fs

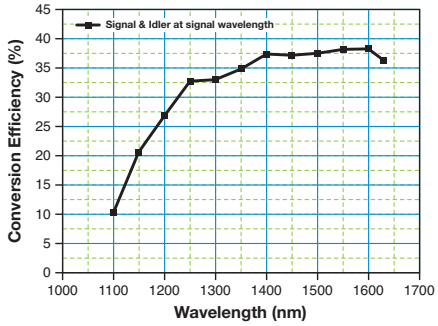
Ultrafast Optical Parametric Amplifier

System Specifications[1,2]

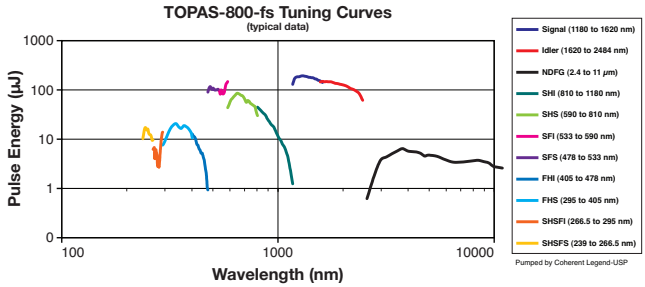
	Beam	Wavelength Range	Pulse Energy		Polarization
			<50 fs pump	<130 fs pump	
TOPAS-800-fs[4]	Signal	1140 to 1600 nm	>250 µJ (S+I)		V
	Idler	1600 to 2600 nm			H
Options[3]					
TOPAS-800-fs-VIS	SHI	800 to 1150 nm	>30 µJ	>80 µJ	V
	SHS	580 to 800 nm			H
	SFI	533 to 580 nm	>30 µJ	>60 µJ	V
TOPAS-800-fs-BLUE	SFS	480 to 533 nm	>40 µJ	>90 µJ	V
TOPAS-800-fs-UV1	FHI	400 to 480 nm			H
	FHS	290 to 400 nm	>5 µJ	>15 µJ	V
TOPAS-800-fs-UV2	SH (SFI)	266 to 295 nm			H
	SH (SFS)	240 to 266 nm	>3 µJ	>8 µJ	H
TOPAS-800-fs-IR[5,6]	DFG1	2.6 to 11 µm	>2 µJ at 4 µm	>8 µJ at 4 µm	H
			>0.5 µJ at 9 µm	>1.5 µJ at 10 µm	H
	DFG2	5 to 20 µm[6]	>1 µJ at 5 µm	>4 µJ at 5 µm	H
			>0.1 µJ at 15 µm	>0.3 µJ at 15 µm	H

[1] All specifications are based on pumping with 1 mJ from Legend-F, Legend-USP or Libra at 1 kHz (contact factory for other pump systems).
[2] Energy scales linearly with pump in range 0.15 mJ to 4 mJ for <130 fs pump and 0.15 mJ to 3.5 mJ for <50 fs pump.
[3] Energies given at peak of tuning ranges. VIS/BLUE/UV wavelength extension options listed include all mixing crystals listed in preceding options (e.g., TOPAS-800-fs-UV2 options includes crystals, etc., to tune from 240 to 1150 nm). Contact factory for tuning down to 190 nm.
[4] Signal pulse width is (0.7 to 1.0) x pump for <130 fs pump duration, (1 to 1.2) x pump for <50 fs pump duration.
[5] DFG1 tuning range is 2.6 µm to 9 µm for <50 fs pump. DFG1 pulse width is (1 to 1.5) x pump for <130 fs pump and (1.5 to 2) x pump for <50 fs pump.
[6] DFG2 tuning range is 5 µm to 15 µm for <50 fs pump. DFG2 pulse width is (1 to 2) x pump for <130 fs pump.

Typical Conversion Efficiency to Signal + Idler (pumped by 1 mJ, 1 kHz, 800 nm Libra)



Typical Tuning Curve (pumped by 1 mJ, <40 fs, 1 kHz, 800 nm Legend)



Coherent follows a policy of continuous product improvement. Specifications are subject to change without notice.

Coherent's scientific and industrial lasers are certified to comply with the Federal Regulations (21 CFR Subchapter J) as administered by the Center for Devices and Radiological Health on all systems ordered for shipment after August 2, 1976.

Coherent offers a limited warranty for all TOPAS-800-fs OPAs. For full details of this warranty coverage, please refer to the Service section at www.Coherent.com or contact your local Sales or Service Representative.

COHERENT®

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