



RADIANT QX TUNABLE LASER



Known for industry leading OPO engineering, OPOTEK has redesigned the RADIANT for the modern laboratory. With an improved mechanical design, the RADIANT QX tunable laser system can now be installed by you; saving time and money over competing solutions. By offering tuning ranges from the deep UV to the mid IR, choosing the best system for your application has never been easier. Never let fixed wavelength laser technology limit the boundaries of your discovery.

SYSTEM FEATURES

- Fully integrated optical layout
- Flashlamp based pump laser with minimal maintenance
- End-user replaceable flashlamp (100 million shot lifetime) and DI cartridge
- Flashlamp and/or Q-Switch external triggering
- Computer controlled via a single USB connection
- Control software and software development kit (SDK)
- Programmable scans
- No factory installation required
- End user accessible alignment verification
- Temperature controlled, motorized Harmonics (MH)
- All tunable wavelengths output from a single port
- Access to fundamental and pump beams (1064nm, 532nm, and/or 355nm)
- All tunable wavelengths accessible without any manual configuration changes
- Fiber bundle compatible output port

AVAILABLE OPTIONS AND ACCESSORIES

Extended UV Tuning Range: Extends the tuning range to 193-410nm (EUV) or 210-410nm (UV). Available on RADIANT QX30 systems only.

Motorized Variable Attenuator (MVA): End user removable/installable. Reduces OPO by 10-15% when installed. Computer-controlled. Can only be used with visible and near-infrared wavelengths.

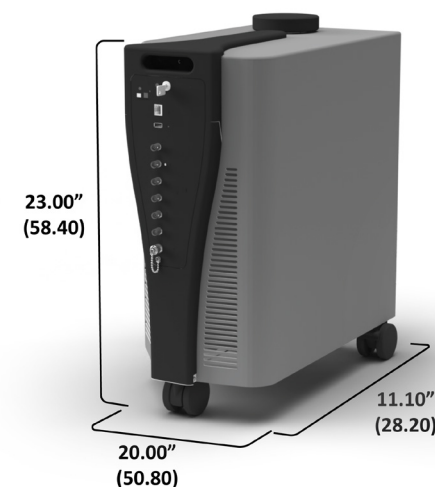
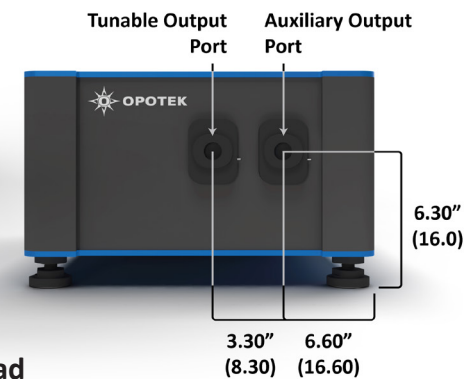
Integrated Fiber Bundle (FB): End user changeable output from free space to fiber bundle. Custom fiber bundles available upon request. Fiber bundles installed directly into the output port. Available for RADIANT QX20 and QX30 systems only.

Access to full power harmonic wavelengths (2F/3F): Access to 532nm and/or 355nm output. 355nm available on RADIANT QX30 systems only.

Fourth Harmonic Output (4R): End user installable/removable Fourth Harmonic Generator (266nm). Available on RADIANT QX20 and QX30 systems only.

Wavemeter (WM): Real-time wavelength monitoring and harmonic auto-optimization. Available on RADIANT QX20 and QX30 systems only.

DIMENSIONS inches (cm)

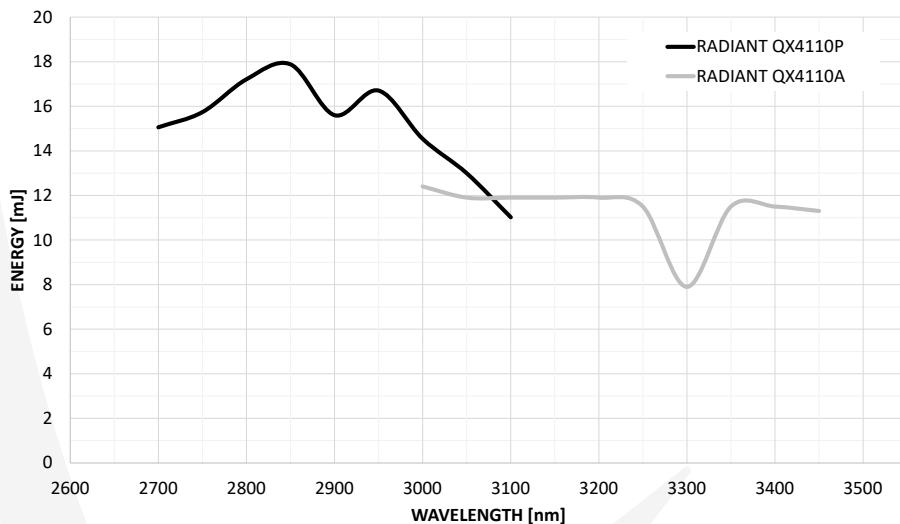


Power Supply

RADIANT QX10

RADIANT QX4110P | RADIANT QX4110A

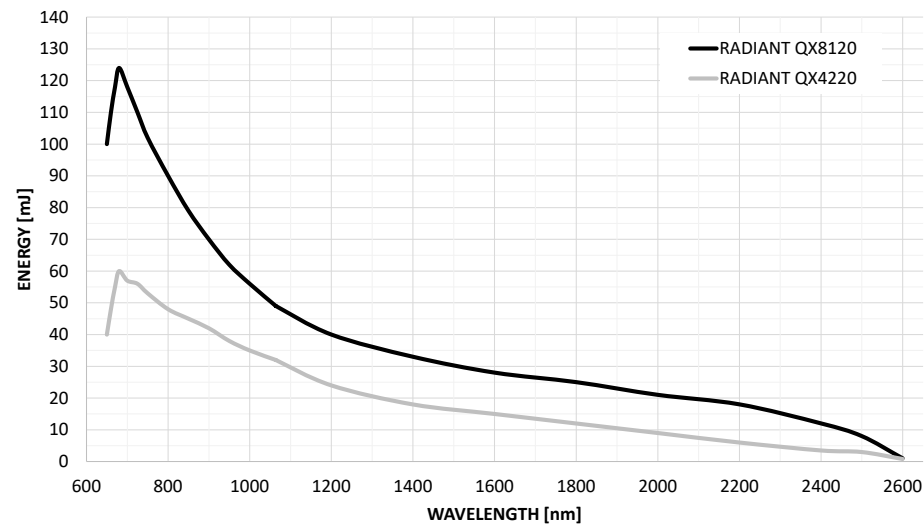
MIR TUNING RANGE



RADIANT QX20

RADIANT QX4220 | RADIANT QX8120

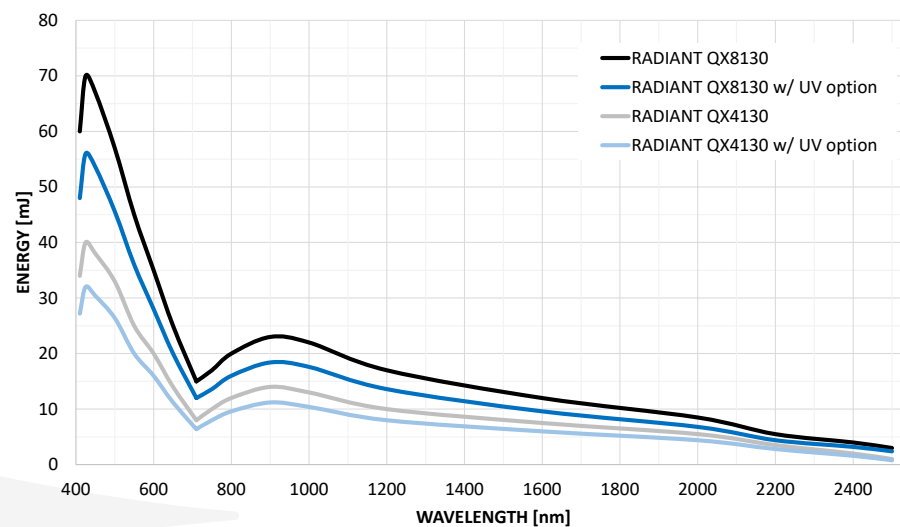
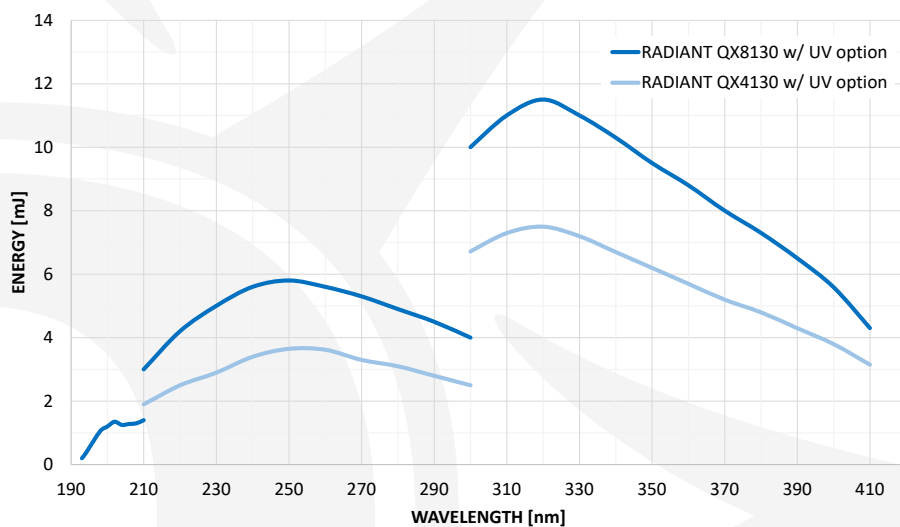
NIR TUNING RANGE



RADIANT QX30

RADIANT QX4130 | RADIANT QX8130

UV/VIS/NIR



OPO SPECIFICATIONS	RADIANT QX10		RADIANT QX20		RADIANT QX30	
	RADIANT QX4110A	RADIANT QX4110P	RADIANT QX4220	RADIANT QX8120	RADIANT QX4130	RADIANT QX8130
WAVELENGTH RANGE (nm)	3000-3450	2700-3100	650-2600		410-2500	
w/ UV (option)	--	--	--		210-2500	
w/ EUV (option)	--	--	--		193-2500	
Peak OPO Energy (mJ)	12	18	60	120	40	70
Peak UV Energy (mJ)	--	--	--		1.4	11.5
Peak EUV Energy (mJ)	--	--	--		---	1.3
Pulse to Pulse Stability (%) ¹	< 2		< 2		< 2	
Pump Laser Residual Energy (mJ)	100 @ 1064 nm	100 @ 1064 nm	40-50 @ 532 nm	80-100 @ 532 nm	30-60 @ 355 nm	40-80 @ 355 nm
Linewidth (cm⁻¹)	4 - 7		10 - 15		4 - 7	
Tuning Resolution (nm)	< 1		< 1		< 1	
Pulse Duration (ns)	6		6		6	
Beam Diameter (mm) ²	7		7	9	7	9
Beam Divergence (mrad) ³	< 5 (vertical); < 10 (horizontal)		< 2 (Both Axis)		< 1.5 (Both Axis)	
Signal Polarization	--		Horizontal		Horizontal	
Idler Polarization	Vertical		Vertical		Vertical	

PUMP LASER SPECIFICATIONS

OPO Pump Wavelength (nm)	1064	532	355
OPO Pump Energy (mJ)	100	150	400
Pulse Duration (ns)	6	6	6
Beam Divergence (mrad)	< 1	< 1	< 1
Pulse to Pulse Stability (%) ⁴	< 2	< 2	< 2
Pulse Repetition Rate (Hz)	10	20	10

¹ RMS @ peak OPO λ, 99% of shots

² at output of the laser

³ Full angle, at 1/e² of the peak; @ peak wavelength

⁴ RMS, 99% of shots

DIMENSIONS (all systems)

Laser Head (L x W x H; inches [cm])	29.0 x 16.0 x 10.0 [73.7 x 40.7 x 25.4]
Electronics Box (L x W x H; inches [cm])	11.5 x 10.3 x 3.8 [29.2 x 26.2 x 9.7]
Power Supply (L x W x H; inches [cm])	11.1 x 19.9 x 20.2 [28.3 x 50.7 x 51.3]
Laser Head Weight (lbs [kg])	100 [45.4]
Power Supply Weight (lbs [kg])	59.5 [27]

OPERATING REQUIREMENTS (all systems)

Cooling System	Integrated air-water heat exchanger (included)
Coolant	Distilled water
Temperature	64-82°F / 18-28 °C
Power	100-240 VAC, 50/60 Hz, single phase 1000VAC



VERSION 1.01

Due to ongoing product improvements, all specifications are subject to change without notice. All tuning curves represent nominal values.

