



## S P E C I F I C A T I O N

SERIES			Series One			Series Two			PIV Series		
						PRELIMINARY DATA			PRELIMINARY DATA		
Parameter	Rep. Rate	Wavelength (nm)	SLMQ1S	SLMQ1T	SLMQ1G	SLMQ2S	SLMQ2T	SLMQ2G	SLMQ1-PIV	SLMQ2-PIV	
Resonator - Stable multimode Stable TEM <sub>00</sub> Unstable multimode (Gaussian coupled)			•	•	•	•	•	•			
Pulse Energy (mJ)	Up to 10Hz	1064	250	25	200	350	25	320	Up to 15Hz <sup>1</sup>	100 25	160 ∞
		532	125	10	100	150	10	150			
		355	40	4	60	∞	4	75			
		266	30	3	40	∞	3	70			
	Up to 20Hz	1064	250	25	200	300	25	250	Up to 15Hz <sup>1</sup>	100 25	160 ∞
		532	125	10	100	100	10	125			
		355	40	4	60	∞	4	40			
		266	30	3	40	∞	3	30			
	Up to 30Hz	1064	150	10	150	150	10	150	Up to 25Hz <sup>1</sup>	∞ ∞ ∞ ∞	∞ ∞ ∞ ∞
		532	60	4	60	60	4	60			
		355	25	2	35	∞	2	25			
		266	20	1	20	∞	1	20			
Pulse Duration (ns)	FWHM	1064	8-10	4-6	4-6	8-10	5-7	5-7		7-9 6-8	7-9 6-8
		532	7-9	3-5	3-5	7-9	4-6	4-6			
		355	6-8	3-5	3-5	6-8	4-6	4-6			
		266	5-7	3-5	3-5	5-7	4-6	4-6			
Energy stability (±%)	99% of pulses	1064	2	2	2	2	2	2		3 4	3 4
		532	4	4	4	4	4	4			
		355	6	6	6	6	6	6			
		266	10	10	10	10	10	10			
Power drift (%)	Over 8 hrs @±3°C	1064	3	3	3	3	3	3		5 6	5 6
		532	5	5	5	5	5	5			
		355	6	6	6	6	6	6			
		266	10	10	10	10	10	10			
Polarization (% linear)		>98	>98	>98	>98	>98	>98				
Beam Divergence (mrad)	Full angle for 86% energy	3	1.3*	0.8	3	1.3	0.8		3	3	
M <sup>2</sup>	Defined as times defraction limit	8	1.3	2	15	1.3	2				
Pointing Stability (±μrad)	Full angle 99% of shots	<100	<100	<100	<100	<100	<100		<50	<50	
Beam Diameter (mm)	Nominal	5	2	5	6.25	2	6.25		5	6.25	
Linewidth of fundamental (cm <sup>-1</sup> ) <sup>2</sup>	Natural	1	1	1	1	1	1		1	1	
	With single etalon option	0.2	0.2	0.2	0.2	0.2	0.2		0.2	0.2	
	Intra cavity etalon option	0.08	0.08		0.08	0.08					
Timing jitter (±ns)	With respect to Q-switch diect access	2	2	2	2	2	2		2	2	
Lamp life (shots)		>10 <sup>7</sup>	>10 <sup>7</sup>								

## NOTES - MINI-Q SERIES

\* x diffraction limit  
∞ To be advised  
Higher rep. rates are also available.  
Further details can be obtained from your local supplier.

MINI-OPO INTEGRA SERIES		MODEL		
Parameter	OPO VisIR	OPO VisIR2	OPO IR	
Type	Type I BBO	Type II BBO	Type I KNbO <sub>3</sub>	
Pump wavelength (nm)	355	355	1064	
Pump energy (mJ)	≥50	≥50	100-170	
Tuning range	405nm - 2.7µm	410nm - 2.5µm	1.45 - 4.0µm	
SHG tuning range (nm)				
Crystal type	UV0	210-220	N/A	
	UV1	220-257	N/A	
	UV2	257-355	N/A	
	UV3	380-410	N/A	
Conversion efficiency (%) <sup>1</sup>	<20	<20	<12	
Linewidth (cm <sup>-1</sup> ) <sup>2</sup>	8-60	<4	2-50	
Divergence signal (mrad)	2-5	2-5	2-5	
Divergence idler (mrad)	3.5-8	3.5-8	3.5-8	
Pulse length (ns)	4-6	4-6	6-8	
Energy stability (%) <sup>3</sup>	<±10	<±10	<±5	
Power stability (%) <sup>4</sup>	<±8	<±8	<±4	
Motor drive/PC software	Optional	Optional (Required for SHG) <sup>7</sup>	Optional	

PIV MODEL PACKAGES		
Output configuration	BAP 1 BAP 2 BAP 3	Combined, collinear beam, 532nm, same polarization Combined, collinear beam, 532nm, orthogonal polarisation Combined, collinear beam, 532 & 355nm interpled
Interpulse delay interval timing <sup>3</sup>	Range A Range B	0.2 - 50µs 2µs - 1ms

SERVICES ALL MODELS	
Electrical Supply Requirements	Single phase 100-120 or 220-240VAC 50/60Hz, <1KW
Cooling	Closed loop water to air with integral air-cooling to power supply, deionised water.
Environmental	18-30°C, non-condensing

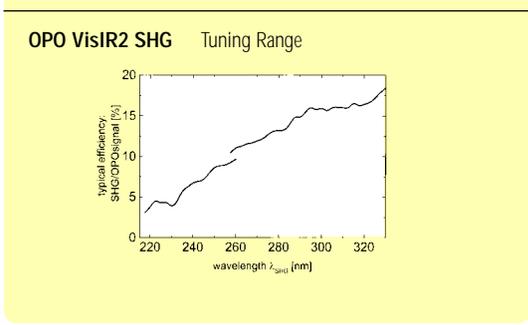
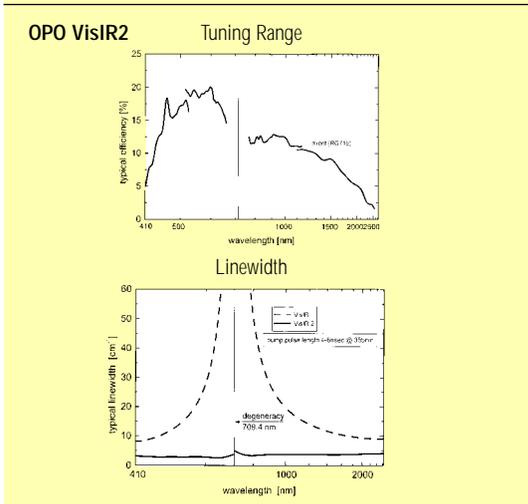
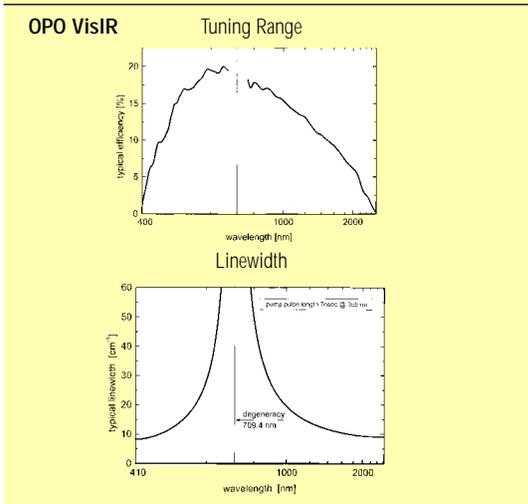
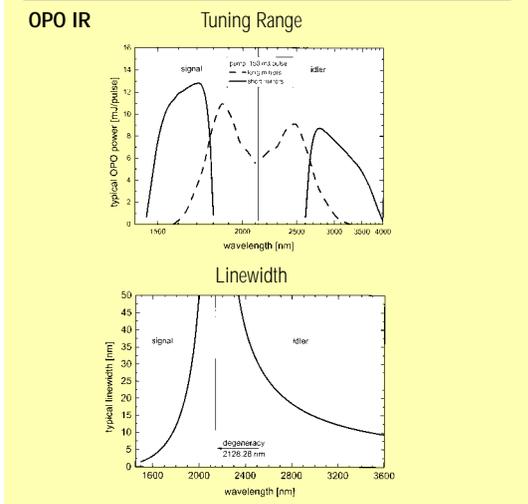
**NOTES - MINI-Q & PIV SERIES**

- Figures shown as per laser per pulse.
- 10% insertion loss with etalons.
- Using Spectron DLU2 delay generator, other delay generators available.

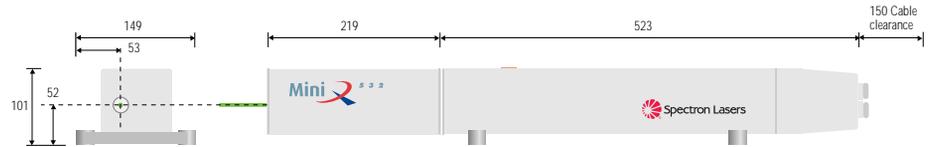
**NOTES - MINI-OPO INTEGRA SERIES**

- Typical, % of pump wavelength energy @10Hz
- Of fundamental wavelength, varies with pulse duration.
- Of fundamental wavelength.
- Of fundamental wavelength.

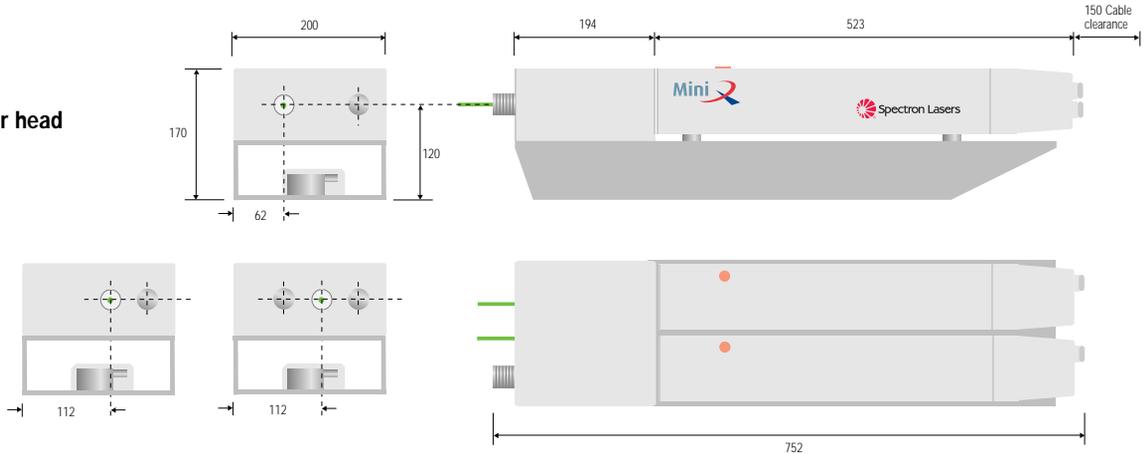
**OPO RANGE PERFORMANCE**



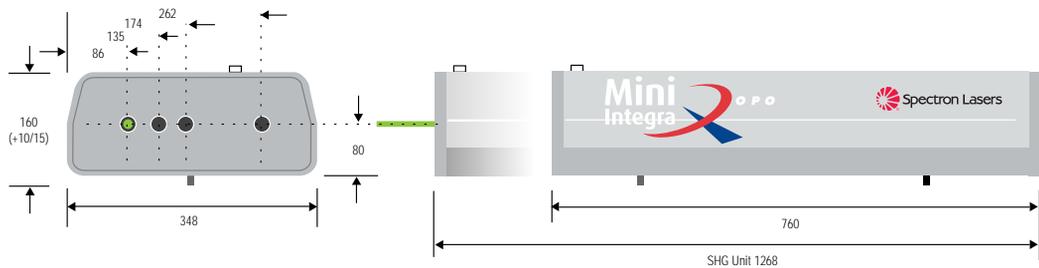
**Mini-Q Laser head**  
with integrated harmonic  
separation & variable attenuator.



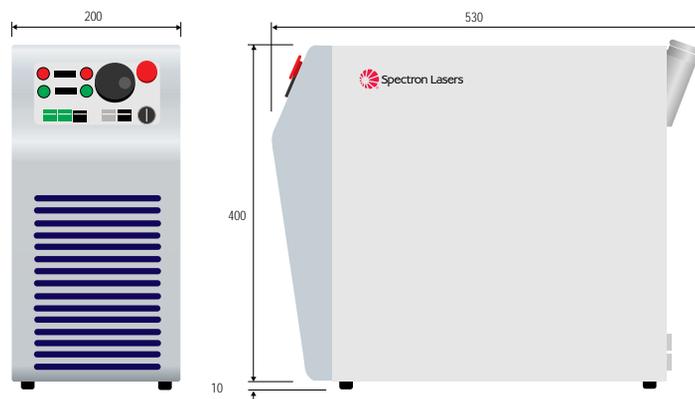
**Mini-Q PIV Laser head**



**Mini-OP0 Integra  
Laser head**



**Mini-Q Power Supply Unit**  
For PIV applications two PSUs are required.



Service connections from PSU  
to laser head 2m long.

Air flow must not be restricted to  
front and rear of PSU.

SHG for VisIR2 is separate to the  
Integra laser head.

All dimensions are in millimeters  
unless otherwise stated.

As our policy is constantly to  
improve the design and  
specification of Spectron Laser  
products, the details given in  
this brochure are not to be  
regarded as binding.



**Polytec GmbH**

Polytec-Platz 1 – 7 · 76337 Waldbronn · Germany  
Telefon (0 72 43) 604-0 · Telefax: (0 72 43) 6 99 44

E-Mail: [info@polytec.de](mailto:info@polytec.de)  
[www.polytec.de](http://www.polytec.de) [www.polytec.com](http://www.polytec.com)

