



ASG. Second Harmonic Generator

- High conversion efficiency
- Small walk-off angle
- Low beam divergence
- No heating



Second harmonic generator ASG-O-800

Product overview

Second harmonic generators (SHG) are used for doubling of optical frequency for a wide range of input wavelengths produced by various ultrafast laser sources. The sources may be titanium-sapphire femtosecond lasers (Ti:S, 700-1000 nm), various ultrafast solid-state and fiber lasers around 1030-1064 nm region, chromium-forsterite oscillators (Cr:F, 1230-1270 nm), as well as other ultra-short pulse sources including parametric light conversion systems. The principle of operation is based on second harmonic generation in a non-linear crystal with phase-matching technique. The units provide stable output radiation with good beam quality and little pulse broadening in fs scale.

The models are subdivided into two main branches: the ASG-O-W for usage with ultrafast oscillators (multi-MHz rep. rates with nJ-level output) and the ASG-A-W with increased input aperture and modified layout for usage with amplifier systems (single-shot to several MHz, uJ- and mJ-level output). The "W" in the model name takes on the exact central wavelength value for a certain model, e.g. the ASG-O-800 (i.e. designed for an oscillator with ~800 nm output).

ASG technical specifications

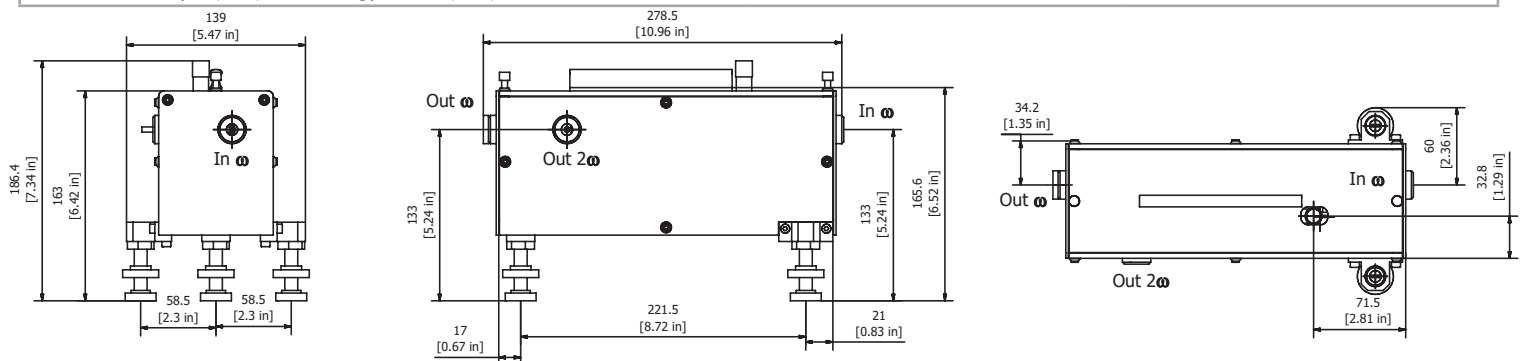
	ASG-O (for oscillators)	ASG-A (for amplifiers)
Possible input wavelength range*	720-1600 nm	
Input wavelength tuning range**	50-100 nm	
Output wavelength***	360-800 nm	
Input pulse duration	>20 fs	
Input polarization	linear, horizontal	
Output polarization	linear, vertical	
Input average power	0.1-3 W	<10 W
Input pulse energy	<2 uJ	2 uJ - 10 mJ
Input beam dia at level of 1/e ²	<2 mm	<10 mm
Conversion efficiency****	20-50%	30-50%
Pulse broadening	<100 fs	
Dimensions	280x140x190 mm	

* - may be covered by several exchangeable optics sets, please indicate the desired wavelength range upon your request;

** - typical with one optics set, depends on exact central wavelength and pulse duration;

*** - defined by input wavelength;

**** - defined by input pulse energy and input pulse duration.



ASG dimensions in mm [inches]

