



# Actively Q-Switched Laser System

## QAOW Series

Data Sheet



### Overview

The QAOW series is a line of UV, visible and near IR diode-pumped solid-state (DPSS) actively Q-switched AOM (Acousto-Optic Modulation) lasers that delivers up to 10000 mW of average power. The QAOW series laser features high peak power, high repetition rate and short pulse duration. The QAOW 266/532/946nm series laser is widely used in marking, carving, measurement, research, and many other applications. The QAOW 1030nm series is used in laser radar ranging, spectrometry, remote sensing, and many other applications. The QAOW 1342nm series is widely used in marking on harder metals, such as Titanium, Inconel, or Tool Steel.

### Features

- Available wavelengths: 266nm, 532nm, 946nm, 1030nm, and 1342nm
- Q-switched operating mode
- Single pulse energy 1 uJ to 400uJ
- Short pulse duration
- High repetition rate

### Applications

- Marking
- Carving
- Measurement
- Research

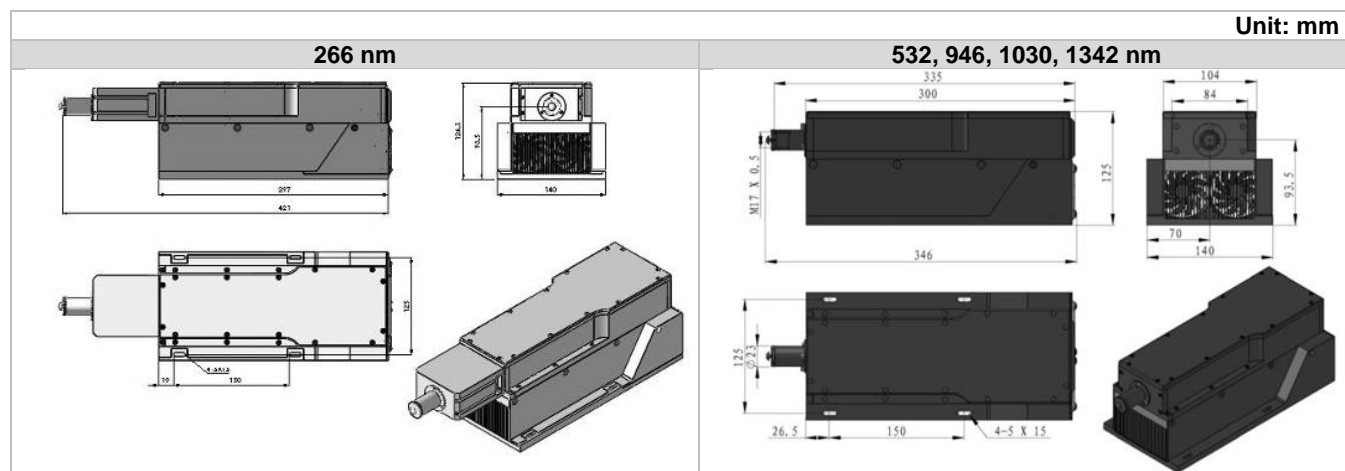
## 266-1342 nm Specifications

Parameter	QAOW266	QAOW532	QAOW946	QAOW1030	QAOW1342
Wavelength	266±1 nm	532±1	946±1	1030±1 nm	1342±1 nm
Operating mode	Acousto-optic Q-switched	Acousto-optic Q-switched	Acousto-optic Q-switched	Acousto-optic Q-switched	Acousto-optic Q-switched
Average power	~10mW@10kHz, ~30mW@10kHz, ~50mW@10kHz, ~100mW@10kHz, ~150mW@10kHz, ~200mW@10kHz	~1W@10kHz, ~2W@10kHz, ~1.5W@5kHz	~1000mW@10kHz, ~1500mW@10kHz	~0.5W@10kHz, ~1W@10kHz, ~1.3W@10kHz	~2W@10kHz, ~3W@10kHz, ~4W@10kHz
Single pulse energy	Up to ~20uJ	Up to ~300uJ	Up to ~150uJ	Up to ~130uJ	Up to ~400uJ
Ave power stability (rms, over 4 hours)	<5%, <3%	<5%, <3%	<5%, <3%, <1%	<5%, <3%	<5%, <3%, <2%
Pulse duration (varies from power and repetition)	Typically 10-15ns@<10kHz	Typically ~10ns@<10kHz	Typically ~90ns@10kHz	~50ns @10kHz&1300mW	Typically ~40ns@10kHz
Repetition rate	1-50 kHz	1-50 kHz	1-50 kHz	1-10 kHz	1-50 kHz
Beam diameter at aperture (1/e <sup>2</sup> )	~2.0 mm	~2.5 mm	~2.5 mm	~4.0 mm	~2.0 mm
Beam divergence, full angle	<3.5 mrad	<2.0 mrad	<2.0 mrad	<2.0 mrad	<2.0 mrad
Warm-up time	<10 mins	<10 mins	<10 mins		>100:1
Cooled method	Air cooled	Air cooled	Air cooled	<10 mins	<10 mins
Operating temperature	15-30 °C	10-35 °C	10-35 °C	Air cooled	Air cooled
Expected lifetime		10,000 hours	10,000 hours	15-35 °C	10-35 °C
Warranty	10 months	10 months	10 months	10,000 hours 10 months	10,000 hours 10 months

## Remarks:

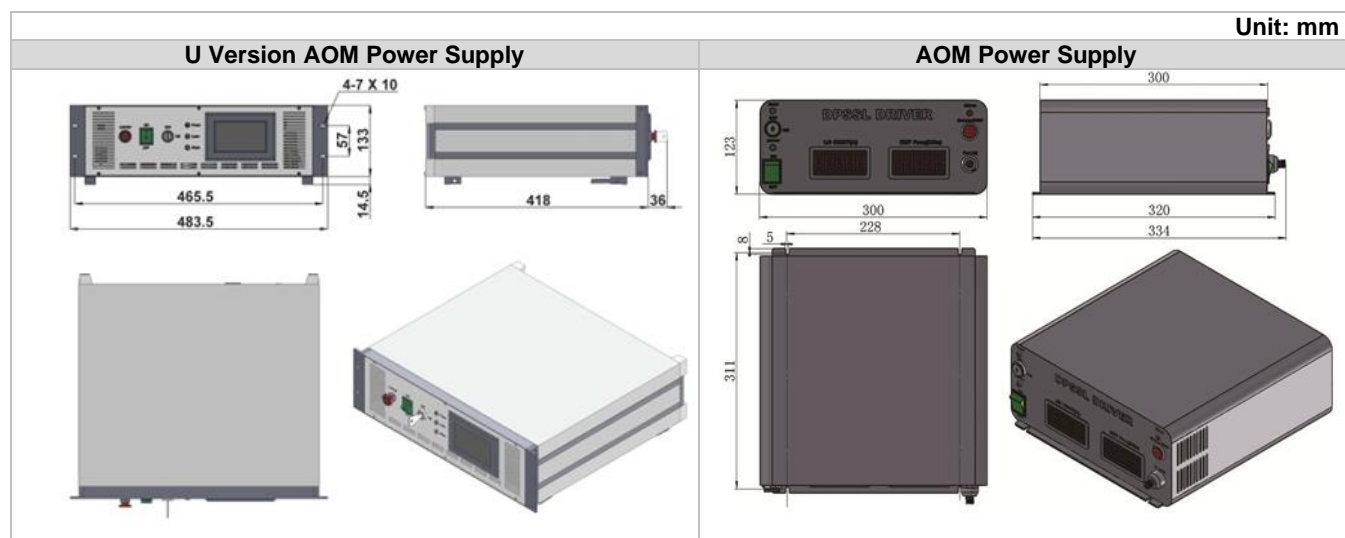
- Average power (mW) = Single pulse energy (μJ) \* Rep. rate (kHz)
- Peak Power (W) = Single Pulse Energy (μJ) / Pulse Duration (μs)
- Specifications of the Q-switched pulsed laser is based on the laser pulsed at the specified repetition rate. If the laser is run at a different repetition rate, the output characteristics may change.

QAOW Series Laser Head Dimensions



Parameter	266 nm	532, 946, 1030, 1342 nm
Dimensions	421(L) x140(W) x124.3(H) mm <sup>3</sup>	346(L) x140(W) x125(H) mm <sup>3</sup>
Weight	6.0 kg	6.0 kg
Beam height from base plate	93.5 mm	93.5 mm
Beam exit (from side)	43 mm	

QAOW Series Power Supply Dimensions



Parameter	U Version AOM Power Supply (266, 1030 nm)	AOM Power Supply (532, 946, 1342 nm)
Dimensions	483.5(L) x454(W) x147.5(H) mm <sup>3</sup>	334(L) x300(W) x123(H) mm <sup>3</sup>
Weight	8.3 kg	6.8 kg
Input voltage	220/110VAC	220/110VAC

**Ordering Information**

For more information, please contact Lasermate directly at [sales@lasermate.com](mailto:sales@lasermate.com).

Part Number Configuration QAOW[1][2][3][4]				
QAOW = Laser Model Series	[1] = Wavelength	[2] = Average Power or Single Pulse Energy	[3] = Power Supply	[4] = Power Stability
	266= 266nm 532= 532nm 946= 946nm 1030= 1030nm 1342= 1342nm		A= AOM Power Supply AU= U Version AOM Power Supply	A= <5% E= <3% 2= <2% D= <1%

Note: The above specifications are subject to change without notice.