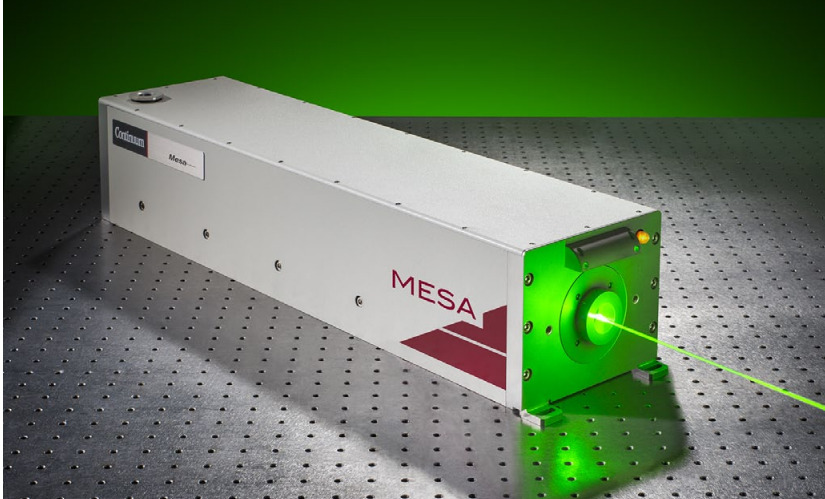


# Diode Pumped Nd:YAG Diode Pumped Nd:YAG Diode Pumped Nd:YAG

**Mesa™**



## Mesa, the diode pumped Nd:YAG laser

Our Mesa Series of lasers is ideally suited for a broad range of scientific and industrial applications, including micromachining, where small kerf width and excellent edge quality are the most important process requirements. This series of lasers is optimized with astigmatism-free circular beams and superior stability to ensure the highest process quality. Our pumping technology and stable optical resonator design produce a laser beam with uniform energy distribution and high output power. The harmonic output at 532 nm is ideal for processing materials such as semiconductor wafers, solar cells, copper, polyamide, printed circuit boards, and plastics.

### Scientific Applications

*Ti:Sapphire pumping  
Particle Image Velocimetry (PIV)  
Combustion Analysis  
Laser Induced Fluorescence  
LIDAR  
Resonance Raman Spectroscopy  
Chemical Analysis of Macromolecules  
Laser Microprobe Analysis*

### Industrial Applications

*Stent/Glass/PCB/Fine Metal Cutting  
LCD/Solar Edge Deletion  
Marking  
Wafer Trimming  
Micro-hole Drilling  
Ceramics Scribing  
Fine Wire Stripping  
Diamond/Gemstone Processing*

**1064 and 532 nm operation**

**Smooth and symmetrical beam profile**

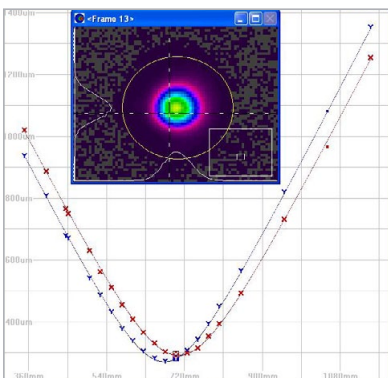
**Highly efficient wavelength conversion**

**Consistent output over wide power range**

**Compact & rugged package designed for 24/7 operation**

**Record 3 min. diode module replacement with no realignment necessary**

**Proprietary optical cavity design for optimal beam quality**



**Mesa Output Profile**  
 $M^2 < 1.2$  at 6kHz

**Continuum®**  
The High Energy Laser Company™

# Mesa Specifications

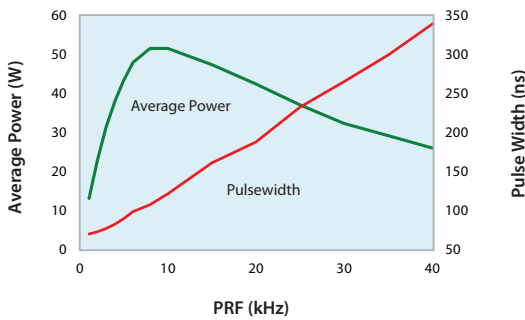
Description	1064-100-M	1064-50-M	1064-25-M	1064-25-0	1064-20-0-P	532-60-M	532-40-L	532-40-M	532-20-0	532-16-0	532-10-0
Wavelength	1064	1064	1064	1064	1064	532	532	532	532	532	532
Power CW (W)	100	50	25	25	20	n/a	n/a	n/a	n/a	n/a	n/a
Power at 10 kHz (W)	75	37	18	20	14	60	40	40	20	16	10
Power at 6 kHz (W)	60	30	14	17	10	55	40	40	18	16	9
Repetition Rate (kHz)	1-40	1-40	1-40	1-40	1-40	1-30	1-30	1-30	1-30	1-30	1-30
Pulse-to-Pulse Stability (% RMS) <sup>1</sup>	<2	<2	<3	<2	<2	<2	<3	<2	<3	<3	<3
Pulsewidth (ns)	<160	<200	<220	<140	<140	<150	<150	<170	<110	<110	<130
Beam Pointing Stability (μrad RMS)	<20	<30	<30	<15	<15	<20	<20	<20	<15	<15	<15
Beam Diameter (mm) <sup>2,3</sup>	6	6	6	1.1	1.0	3.5	2.2	4.0	0.9	0.9	0.8
Beam Divergence (mrad) <sup>2</sup>	9.5	7	7	3	3	7	5	7	2.3	2.3	1.7
Beam Quality (M <sup>2</sup> )	<20	<12	<12	<1.2	<1.2	<25	<12	<25	<1.2	<1.2	<1.2
Polarization <sup>4</sup>	random	random	random	random	V 100:1	V 100:1	V 100:1	V 100:1	V 100:1	V 100:1	V 100:1

## Notes

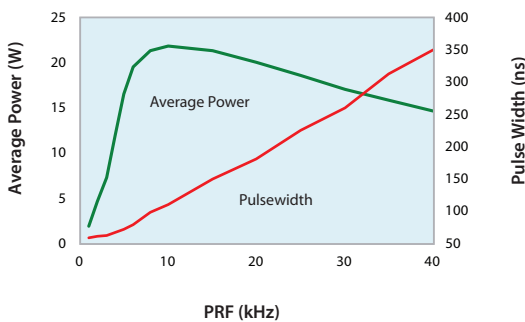
1. All specifications at 6 kHz unless otherwise noted
2. Typical measurement ( $\pm 10\%$ )
3. Measured at 13.5% level at output window
4. V=Vertical. Factory default (can be changed upon request)

As a part of our continuous improvement program, all specifications are subject to change without notice.

## Laser System Output Characteristics



**Laser System Output Characteristics**  
Mesa 532-40-M



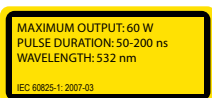
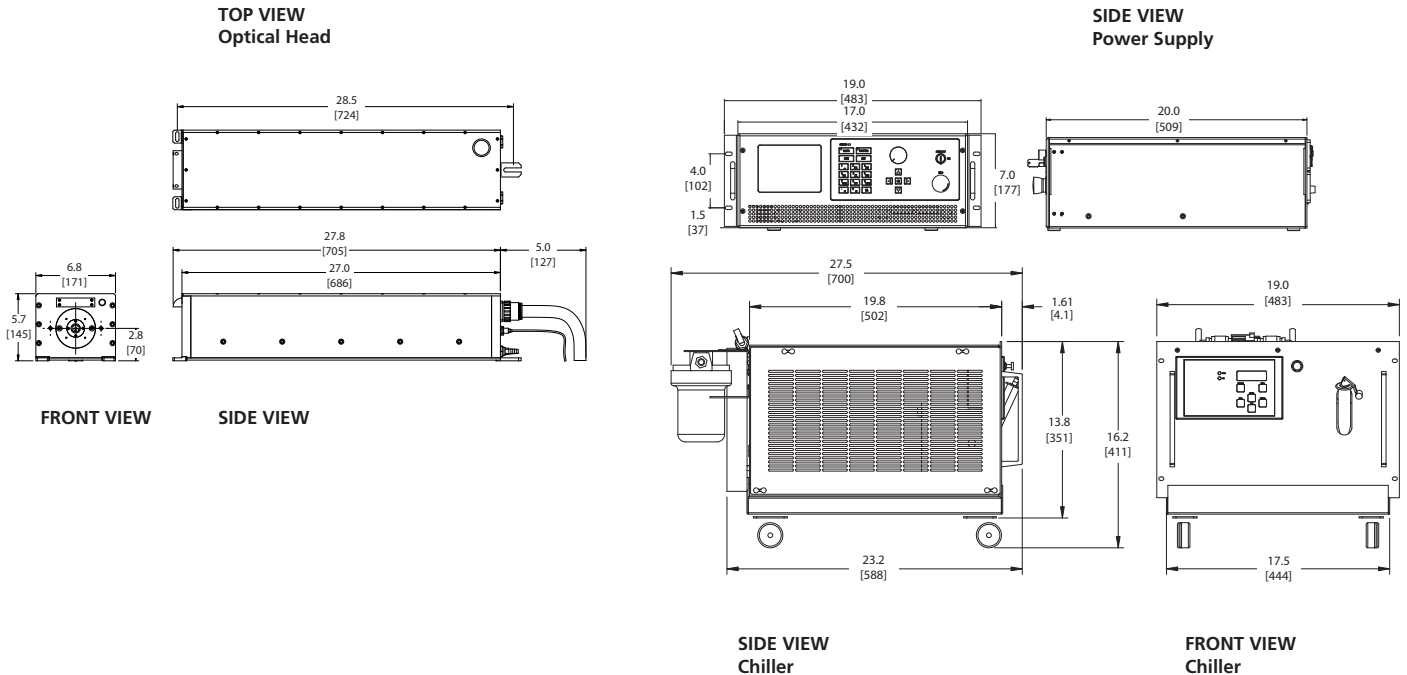
**Laser System Output Characteristics**  
Mesa 532-20-0

# Mesa System Requirements

Size	Optical Head (LxWxH)	686 x 171 x 145 mm (27.0 x 6.8 x 5.7 in)
	Power Supply (LxWxH) Chiller (LxWxH)	509 x 483 x 177 mm (20.0 x 19.0 x 7 in) 699 x 483 x 411 mm (27.5 x 19.0 x 16.2 in)
Weight	Optical Head	20.4 kg (45 lbs)
	Power Supply Chiller	17.7 kg (39 lbs) 55 kg (122 lbs)
Cooling		Air-Water; Water-Water cooling option available
Electrical Service	Power Supply	Single-phase: 200-240 VAC, 50/60 Hz Operating current: 5A, Max current: 10A
	Chiller	Single-phase: 230 ±10% VAC, 50/60 Hz Operating current: 10A, Max current: 15A
Temperature & Humidity	Operating Temperature Storage Temperature Relative Humidity	15 to 35° C -20C to 50° C 8-80%, non-condensing
Umbilical Length		3.65 m (12.0 ft)
Control Interface	User Interface	Full featured front panel control
	Serial Interface	RS-232
	Rear Connections	External beam enable, External trigger
	Control Software	MS Windows-based Laser Commander™

## Mesa Physical Layout

All dimensions are in inches [mm]



Amplitude Laser Group  
 Continuum | Amplitude Technologies | Amplitude Systèmes

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 992-0098, Rev. F 09/16

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