

DM YLF Green Series

Features

- Patented highest pulse energy green laser
- Simplest, most efficient, compact monolithic laser head
- Diode lifetime of > 10,000 hours
- Optimized for pumping PIV and Ti:Sapphire amplifiers
- Pulse energy up to 100 mJ
- Proprietary twin pulse option
- Dual head option*
- Twin pulse option†
- Uniform beam profile
- Excellent pulse to pulse stability (~ 0.5% RMS)

Applications

- Particle Image Velicometry (PIV)
- Annealing or “Bleaching”:
 - changing material properties without material removal
- Pumping Ti:Sa Ultrafast Amplifier Systems
- High power or pulse energy drilling or cutting of hard materials

Owing to its patented technologies, the DM Series Nd: YLF diode pumped laser has the simplest, most efficient design in a monolithic platform, while producing the highest pulse energy at 527 nm (100 mJ/pulse from single head and up to 200mJ from dual head) at kHz repetition rate. In addition to its simple, efficient high pulse energy design, the outstanding thermal management allows the user to change repetition rate from 1 to 10kHz as desired, in contrast to the competition, where the user must select a single repetition rate at purchase. With 6 standard models available, it is the most competitive product on the market, and the best choice for pumping Ti:sapphire laser amplifiers and Particle Image Velocimetry (PIV) applications. In addition to its technological superiority, its reliability has been verified by less than 1% service call request during the warranty period in the latest 24 months statistics.

For even higher pulse energy or sub microsecond pulse separation PIV applications, each of these 6 models can be built into a dual head laser which will produce twice as much pulse energy as its single head counterpart.

* All models can be configured as Dual Head, please see DM Dual Head series.

† PI's patented twin pulse mode provides double pulses from a single trigger signal from the single laser head. Energy ratio of the twin pulses and pulse separation between the twin pulses is user programmable



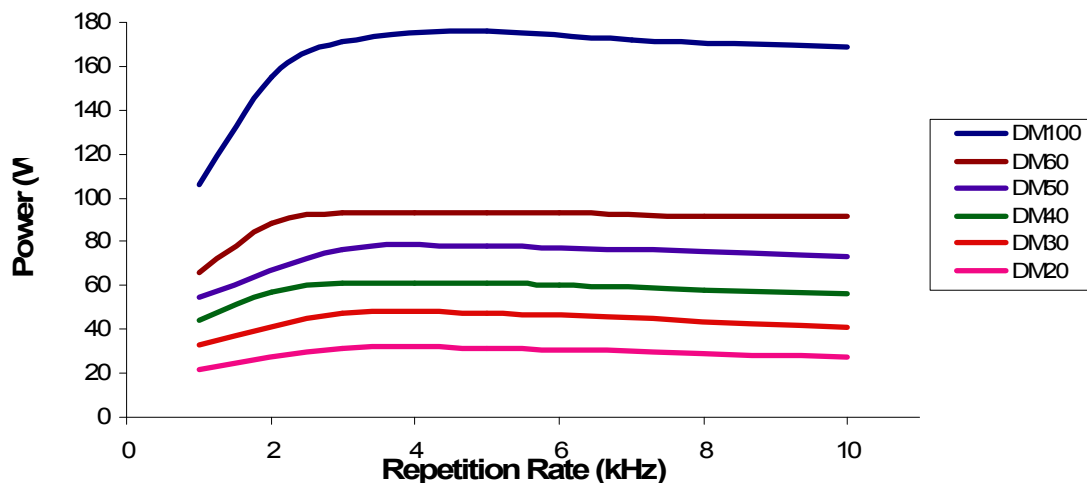
System Specifications

Model	DM20/30/40-527	DM50/60-527	DM100-527
Wavelength (nm)	527		
Average Power (W) @ 3kHz	30/45/60	75/90	150
Pulse Energy (mJ) @ 1kHz	20/30/40	50/60	100
Pulse Width (ns) @ 1kHz	~170/150/130	~120	~100
Repetition Rate*	Single shot to 10 kHz		
Pulse to Pulse Stability	< 0.5% rms		< 0.75% rms
Polarization Ratio	Vertical; 100:1		
Beam Diameter (nominal)	5.0 mm		
Beam Divergence	8.0 mrad ± 15%		
Beam Circularity	> 85%		
Spatial Mode (M2)	~ 10 to 16		
Beam Pointing Stability	< 25 urad		
Long Term Stability	< 0.5% rms		
Interface	RS 232 / External TTL Triggering / GUI software included		
Warm-up Time	< 5 min from standby or cold start		
Electrical Requirement	100 to 240 V	200 to 240 V	
Line Frequency	50 to 60 Hz		
Power Consumption (excluding chiller)	0.8/1.0/1.6 kW	1.7/1.8 kW	2.3 kW
Dimensions (W x H x L)	Laser Head	6.5 in x 26 in x 4.6†in	12 in x 26 in x 4.6† in
	Controller	19 in x 15 in x 5.25 in (3U)	
Weight	Laser Head	49 lbs	84 lbs
	Controller	24 lbs	
Umbilical Length	3 m		
Ambient Temperature	15 to 30 °C		

* For rep rates below 1kHz, the current must be reduced to cap the max pulse energy

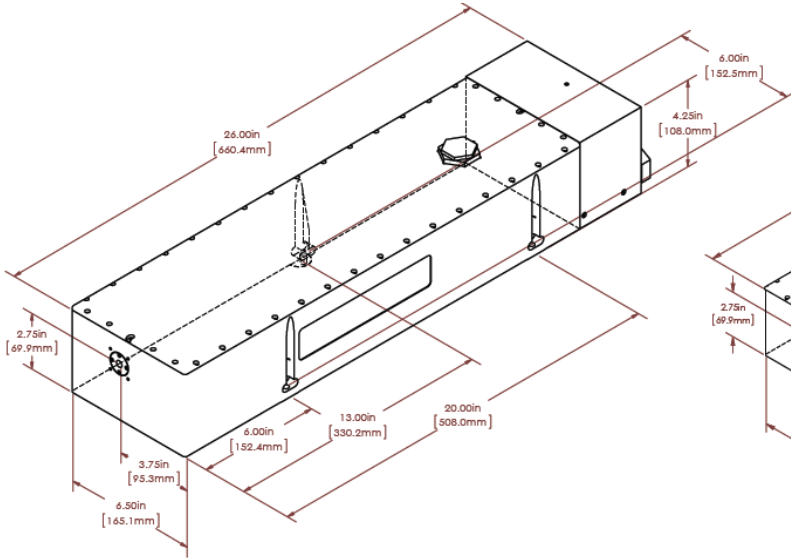
† Includes height of desiccant (0.35")

Performance Curves

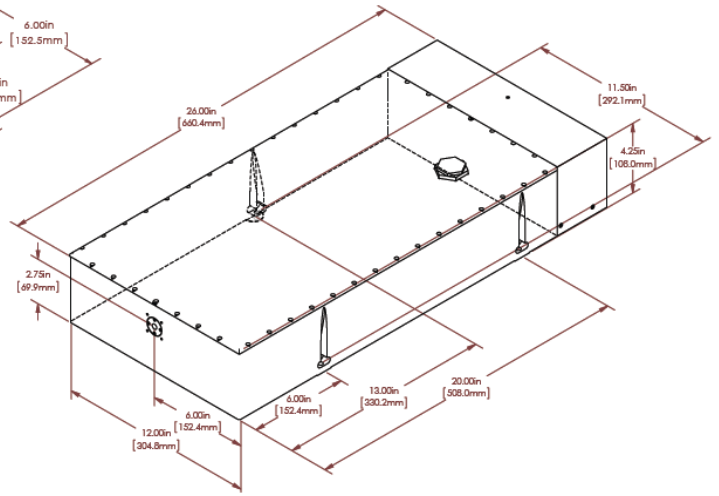


Dimensional Drawings

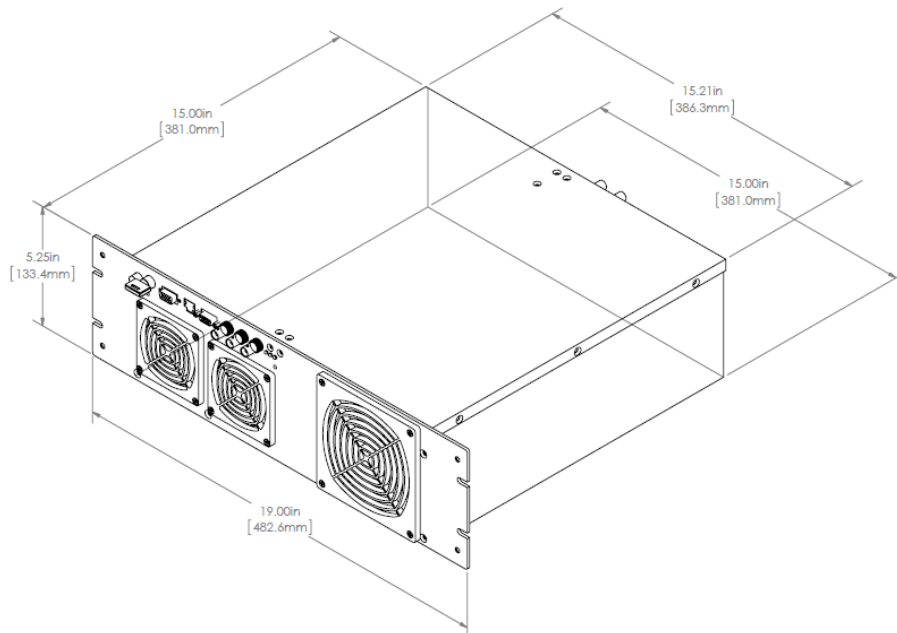
DM20/30/40, 50/60-527 Laser Head



DM100-527 Laser Head



DM20/30/40, 50/60 & 100-527 Controller



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