

DLS SERIES

Heating and Drying Diode Laser Solutions



NEW

FEATURES

- ▶ Up to 48% Energy Efficient
- ▶ Ultra-Compact Footprint & Water Cooled
- ▶ Long-life IPG Components
- ▶ Low Carbon Footprint

APPLICATIONS

- ▶ Drying: Li-ion Battery Slurry, Paint, Powder Coating
- ▶ Annealing/Curing: Industrial Coatings
- ▶ Semiconductor: Wafer Heating

DLS Series fiber lasers are ultra-compact and ultra-efficient solutions for industrial heating and drying applications. The DLS Series announces the arrival of solid-state heating to replace less efficient infrared bulbs and environmentally unfriendly gas fired furnaces. Extremely high power conversion efficiency along with exceptionally low impact on the ambient factory environment make the Cost-of-Ownership and Return-on-Investment of a diode furnace compelling.

A diode furnace operates cold, wasting no energy warming insulating walls or the factory floor as all energy is highly directed laser light onto the media being processed. Between batches the diode furnace is off, not idling, so no energy at all is consumed when it is unneeded.

Sub-surface laser drying provides a more efficient process than a thermal convection oven, meaning **a DLS system is up to 4X smaller while processing material up to 4X faster**. The cool open environment is inviting to thermal metrology enabling tighter process control and benefitting from instantaneous, on-the-fly temperature adjustments. The DLS is best suited to dry industrial coatings such as battery slurries, paint or powder coat. Also, diode heaters are employed when extremely tight process control is needed, such as semiconductor wafer heating.

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Optical Characteristics	5000-U	10000-U	15000-U	20000-U	30000	40000	100000
Wavelength, nm	960-985						
Mode of Operation	CW/modulated						
Modulation Frequency, kHz	0-5 kHz						
Max. Average Power*, W	5000	10000	15000	20000	30000	40000	100000
Power Tunability, %	10-100						
Power Stability**, %	±2						
Laser Illumination Area***, mm	200 × 200			780 × 1300		880 × 1600	
Power Density Uniformity, %	±5						

* The listed power levels represent selected typical models. Other powers levels up to 100 kW and higher powers are available upon request.

** Over 2 hours

*** Illumination area may be tailored to meet customer requirements.

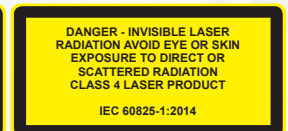
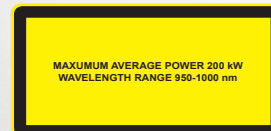
General Characteristics	5000-U	10000-U	15000-U	20000-U	30000	40000	100000
Cabinet Dimensions (W × D × H), mm	430 × 808 × 567	430 × 808 × 700	430 × 808 × 902		1007 × 808 × 805		2008 × 815 × 1393
Weight, kg	150	200	250	300	500	600	1200
Supply Voltage, VAC	400-480 3-phase, 50/60 Hz						
Cooling	Water						
Min. Chiller Capacity, kW	6	12	18	24	36	2 × 24	4 × 30
Water Flow, l/min	>30, typ. 40	>60, typ. 80	>90, typ. 120	>120, typ. 160	>150, typ. 210	>2 × 100 typ. 2 × 140	>4 × 150 typ. 4 × 200
Energy Efficiency, %	>46, typ. 48						



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