Sintec Optronics Technology Pte Ltd
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Diode End-pumped Lasers

Diode End-pumped lasers adopt full sealed-off design with small volume and low power consumption as well as fiber-coupled pumping, which is easily for the integration of system and equipment. The modularized design provides the convenience for changing by customers. The laser beam is TEMoo with high beam quality, high peak power and short pulse width. Excellent resonator design can keep average laser power and pulsed peak power stable & constant. This laser can meet the requirements of most industrial precision processing. What's more, it's absolute air cooling, the micro-optics design of key pumping source is the most advanced all over the world.

FEATURES

- Diode pumped air cooling technology - low power consumption
- Unique split type design
- Good beam quality. It is TEM00 with $M^2 \leq 1.2$. It can be used to mark fine lines, suitable for high precision marking applications.
- Fiber coupled diode pumping with high pumping efficiency & long lifetime(>20,000 hrs).
- The laser is sealed and it is ante-dusty.
- High performance price ratio.

APPLICATIONS

End-pumped diode laser is suitable for marking on various materials, such as nylon, ABS, PVC, PES, steel, titanium, copper, plating materials, coating materials, sprayed materials, plastic, rubber, epoxy resin etc.

Diode end-pumped laser has excellent applications in various fields, such as mobile phone, jewellery, crafts, scribing, film engraving, laser marking & engraving, resistence trimming, range finding, scientific research etc.

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Integrated Diode Side-pumped Solid-State Lasers

Conventional solid-state lasers are pumped by a flashlamp. The lifetime of the lamp is generally shorter than 400 hours and the coupling efficiency of the lamp power into the laser crystal is very low (normally less than 3%), resulting in various undesirable effects such as serious thermal lensing, bad beam quality, bulky physical size and frequent replacement of the flashlamps. Solid-state lasers have undergone a renaissance since the development of reliable and cheap diode lasers, which can be used as pump sources. It has led to a new class of diode-pumped solid-state (DPSS) lasers which have been demonstrated to be highly efficient, reliable, and are attractive for a wide range of applications. DPSS lasers take the advantages of both flashlamp-pumped solid-state lasers and diode lasers, and therefore exhibit more advantages as follows:

High optical-to-optical conversion efficiency (>50%);
Good laser beam quality (M^2 ~1.1);
Stable output laser power (±0.5%);
Low maintenance or maintenance-free;
Compact in size.

The performance of our DPSS lasers is comparable with similar products in the world, but their prices are very attractive and competitive. These lasers are widely used in industries such as electronics, semiconductor, hardware, precision machining, science, defence and medicine for laser marking, trimming and cutting.

Model	DPSS-50	DPSS-75	DPSS-150	DPSS-35S	DPSS-50S
Laser type	Diode-pumped solid-state lasers				
Laser wavelength	1064nm				
Beam diameter	3mm	3mm	6.3mm	2mm	2mm
Beam mode	Multi-mode	Multi-mode	Multi-mode	TEM00*	TEM00*
Laser power	50W	75W	150W	35	50
Power stability	±1%	±1%	±1%	±1.5%	±1.5%
Cooling	Water	Water	Water	Water	Water
Electrical requirements	220VAC, 1KVA	220VAC, 1.5KVA	220VAC, 2.5kW	220VAC, 1KVA	220VAC, 1.5KVA
Chiller	ST-LW16-PF	ST-LW16-PF	ST-LW27-PF	ST-LW16-PF	ST-LW16-PF
Options					
Laser marking head, Q-switch element, laser chiller, lab jack					

* Here TEM00 is not 100% TEM00 and it is low-order mode. The beam quality depends on the laser resonator mirrors, optical length etc.

Typical Applications:

Laser marking; Laser medicine; Laser trimming; Laser cutting; Laser micro-machining; Science & defence.

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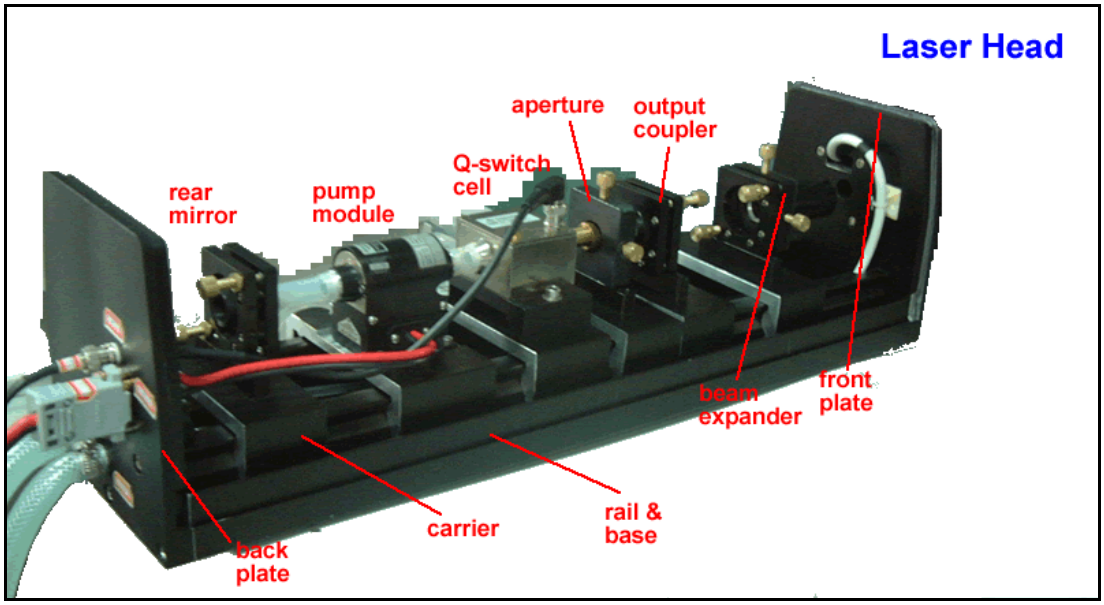
OEM Diode Side-pumped Solid-State Lasers

For OEM users or laser integrators, we can provide OEM and system integrators with a range of high performance components and sub-assemblies of diode-pumped Nd:YAG laser at more attractive prices. These components and sub-assemblies include laser head (diode pump module, laser resonator, Q-switch cell), Q-switch driver, diode driver and chiller.

Model	ST-DPSS-50OEM	ST-DPSS-75OEM	ST-DPSS-150OEM
Laser type	Diode-pumped solid-state lasers		
Laser wavelength	1064nm		
Beam diameter	3mm	3mm	6.3mm
Beam mode	50W	Multi-mode	Multi-mode
Laser power	50W	75W	150W
Power stability	±1%	±1%	±1%
Cooling requirement	Water	Water	water
Electrical requirements	220VAC, 1KVA	220VAC, 1.5KVA	220VAC, 2.5kW
Composition	Laser head, diode driver, Q-switch & driver (option), chiller (option)		
Optional chiller	PH-LW10-CLP	PH-LW16-PF	PH-LW27-PF

1. Laser Head
A laser head consists of base rail, diode pump module, output coupler and rear mirror, front plate, rear plate, and cover. Options include aperture, AO Q-switch cell and beam expander.



2. Q-switch Driver

The panel is standard 19 inch.

3. Diode Driver

The panel is standard 19 inch.

4. Chiller

5. Control Cabinet

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100W, 532nm, Q-Switched DPSS Laser System

Patara is a new family of DPSS laser systems. The high power versions of the *Patara* lasers feature our modular and scalable DPSS technology for superior beam pointing, pulse to pulse stability and high conversion efficiency. With Q switched rated output power up to *100 Watts at 532nm*, the beam shape and parameters are ideally suited for pumping Ti:Sapphire lasers and for industrial manufacturing applications. All Patara lasers have fully enclosed laser head housings for 'hands off' installation in typical manufacturing environments.

Patara Specifications:

Model: STPA-100-QMG
Laser Type: DPSS Nd:YAG
Wavelength: 532 nm
Repetition Rate: 4 to 30 kHz
Output Power: 100W @ 10 kHz
Spatial Mode: Low Order
Beam Diameter @ Output Window: <3.5 mm @ 10 kHz
Beam Quality (M2): <20 @ 10 kHz
Beam Divergence (Full Angle): 5.0 mrad @ 10 kHz
Pulse Width (FWHM): <150 ns @ 10 kHz
Pulse to Pulse Stability: <1.% rms @ 10 kHz
Output Stability (over 8 hours): <4% rms @ 10 kHz
Polarization: Linear