Beamtech

Melar-100 (Double Paths) Nd:glass laser MOPA system installed at CAS in 2005

Melar Series Large Energy Nd: Glass Laser System

In 2005, Beamtech built the first table-top Melar system with 100J output energy at 527nm for CAS(Chinese Academy of Sciences). After 3 years experimental application by using this pump laser, in 2008, the research group of CAS achieved Peta watts high peak power and high intensity laser output of femto second Ti:sapphire laser system.

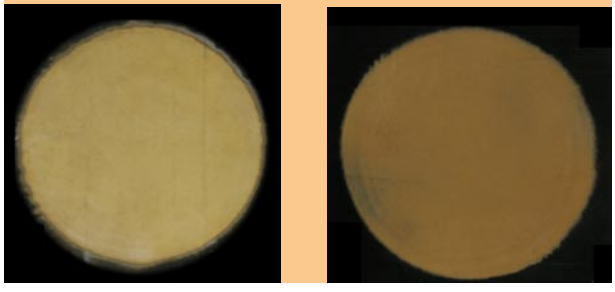
The advanced technologies of Melar series Nd:glass MOPA system, such as single-longititude mode diode-pumped Nd:YLF oscillator, apodizing apertures beam homogenization technique and large energy pumping cavity with ASE restraining technology have been demonstrated their contributions to both output energy and beam quality(the fill factor >0.8). The maximum output energy from each rod amplifier chain of Melar system is around 300J (Φ100mm spot size) with 10~30ns pulse duration. The 1000J compact Nd:glass disk amplifiers and 0.1pps high repetition rate 50J system are under development.

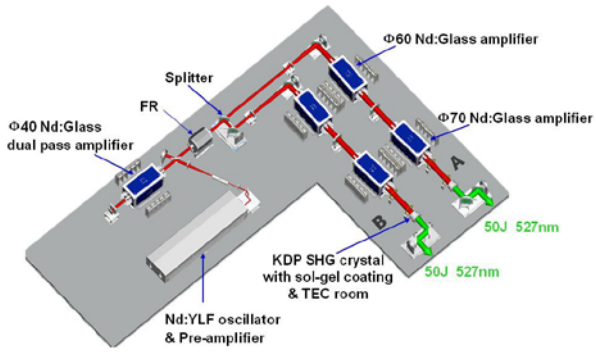
Beamtech also supplies large energy Nd:glass laser accessories, parts and power deliveries for your table-top laser system building up.

Features and applications

- High accuracy multiplex synchronizer with anti electromagnetic interference design
- Heavy electricity security and warning system
- Beam homogenization technology
- Nd:Glass rod thermal compensation and pumping uniformization technologies
- Long life time static vacuum space filter
- Pump for Ti:sapphire lasers
- Laser peening and scientific research applications

Φ65mm Beam pattern of 100J@1053nm & 50J@527nm lasers





The optical layout of Melar-100 (Double Paths)

Melar

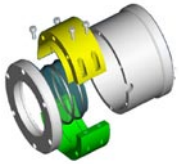
Melar-20 Nd: glass laser
MOPA system installed at CAS in 2008

The main specifications of Melar series Nd:Glass laser

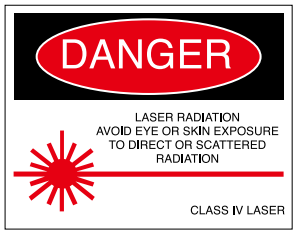
Model	Max output energy	Beam size	Divergence	Beam uniformity (fill factor)	Shot-to-shot stability*1	Pulse duration*2	Pulse jitter*3
Melar-20	20J@1053nm / 10J@527nm	Φ35mm	0.2mrad	≥0.75	3%	~15ns	<1ns
Melar-50	50J @ 1053nm / 25J @ 527nm	Φ55mm	0.1mrad	≥0.8	3%	~15ns	<1ns
Melar-100	100J @ 1053nm / 50J @527nm	Φ65mm	0.1mrad	≥0.8	3%	~15ns	<1ns
Melar-200	200J @ 1053nm / 100J @527nm	Φ85mm	0.05mrad	≥0.8	3%	~15ns	<1ns
Melar-300	300J @1053nm / 150J @527nm	Φ95mm	0.05mrad	≥0.8	3%	~15ns	<1ns

*1: Pulse-to-pulse stability of RMS for 99% of pulses, measured over a 4-hour period with temperature variations of less than ±3℃.
*2: Up to 30ns pulse duration and 1ns pulse duration can be achieved by optional.
*3: RMS jitter from Q-switch sync pulse.

We supply large energy Nd:Glass laser accessories and parts for your table top laser build up.

 DPSS Nd:YLF oscillator& pre-amplifier	 Large energy pumping chambers	 KDP harmonic generation crystal with sol-gel coating & TEC room	 Flash lamp	 Power delivery	 Faraday isolator
Wavelength: 1053nm Energy:1mJ~500mJ Repetition rate:1pps Pulse duration:10-30ns Single-longititude mode	Large energy pumping chambers for Φ20mm, Φ40mm, Φ60mm, Φ70mm, Φ90mm, Φ100mm Nd:glass rod.	Φ40mm--Φ120mm KDP crystal with sol-gel coating & TEC room.	Φ18mm-Φ20mm(ID), 0.4m~1m arc length.	The max. discharge energy is 40KJ with 300us (FWHM) from each PFN for 4 to 6 lamps (series connected).	Aperture:Φ20~Φ100mm Wavelength: 1053nm Max. extinction: >30dB Center rotation angle: $45^0 \pm 1^0$

ISO9001：2000 Certificated



Beamtech Optronics Co., Ltd.
Rm A2101, Jinglong International Mansion,
No. 9 Fulin Road, Chaoyang District,
Beijing, China 100107
Tel: 86-10-84945016 /17 /18 /19
Fax: 86-10-84945020
Email: sales@beamtech-laser.com
Http: //www.beamtech-laser.com