

## TINY series

### Diode-pumped Nd:YAG ns-laser



#### FEATURES

- Air cooled compact design-no water required
- 30-80mJ at 1064nm / Harmonics from 532nm to 266nm
- 10-50 Hz repetition rate / 8-10 ns pulse duration
- Compact and rugged resonator structure ensures long-term thermal and mechanical stability
- Long lifetime over 1 billion shots
- RS232 interface for remote operation

#### APPLICATIONS

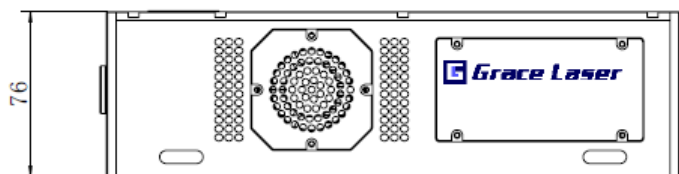
- LIDAR
- LIBS
- Remote sensing
- Ablation
- Mass spectroscopy

*TINY series provide most compact and portable diode pumped air cooled nanosecond lasers with high performance and at a very reasonable price. Diode pumping reduces size, improves lifetime, and eliminates maintenance requirements.*

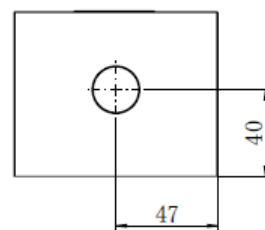
TINY-80 Laser Head  
Mechanical Specifications

Unit:mm

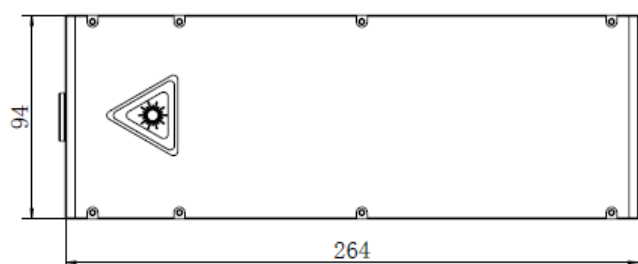
Side View



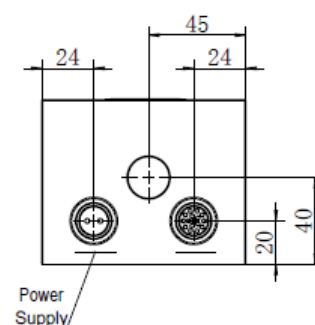
Front View



Top View



Rear View



## Diode-pumped Nd:YAG ns-laser

### Beam characteristics

Version	TINY-30	TINY-50	TINY-80
Repetition Rate <sup>1</sup> (Hz)	10-50Hz	10-30Hz	10-20Hz
Energy (mJ)			
1064nm	30	50	80
532nm	18	30	50
355nm	7	12	20
266nm	4	6	10
Energy Stability RMS (%)			
1064nm	0.7%		
532nm	1.2%		
355nm	1.7%		
266nm	2.8%		
Power Drift <sup>2</sup> (%)			
1064nm	3%		
532nm	5%		
355nm	8%		
266nm	10%		
Pulsewidth FWHM <sup>3</sup> (ns)	8-10ns @1064nm		
Divergence <sup>4</sup> (mrad)	<3mrad		
Beam Pointing Stability <sup>5</sup> (μrad)	50μrad		
Timing Jitter RMS <sup>6</sup> (ns)	<1ns		
Beam Diameter (mm)	~5	~5	~6
Transverse Mode <sup>7</sup>	Multimode (GRM mode option)		
Polarization	linear		
Warm Up Time (min)	<10min		

### General characteristics

AC Input	220 VAC ±5% 50-60Hz
Power Consumption	<200W (typical 80mJ at 10Hz)
Operating Conditions	Temperature 10-30°C Humidity <60%

#### NOTES

- 1.All specifications at 1064nm and 10Hz repetition rate unless otherwise noted.
- 2.Average in 8 hours with room temperature variation  $\delta T < 3^{\circ}\text{C}$ .
- 3.Full width at half maximum.
- 4.Full angle for 86.5% of energy.
- 5.Represents RMS value deviation from beam mean centroid.
- 6.With respect to external trigger.
- 7.GRM resonator mode or stable multimode option. Stable version may operate over a wider range of repetition rate and higher output energy compared with GRM mode.

### Grace Laser Technology Co., Ltd.

Ju Hong BLDG B, Area B, Airport Industrial Park, Shunyi District, Beijing, China

Postcode: 101318

Tel: +86 010-60401920 Fax: +86 010-60401720 Email: sales@gracelaser.com

Web: www.gracelaser.com



## TINY-L series

### Flashlamp-pumped Compact Nd:YAG ns-laser



#### FEATURES

- compact design and **Fast lamp changing unit**
- **50-200mJ** at 1064nm / Harmonics from 532nm to 266nm
- **10-30 Hz** repetition rate / **4-5 ns** pulse duration
- Compact and rugged resonator structure ensures long-term thermal and mechanical stability
- **Harmonics with cartridge holder type unit** require no extra space for installation
- RS232 interface for remote operation

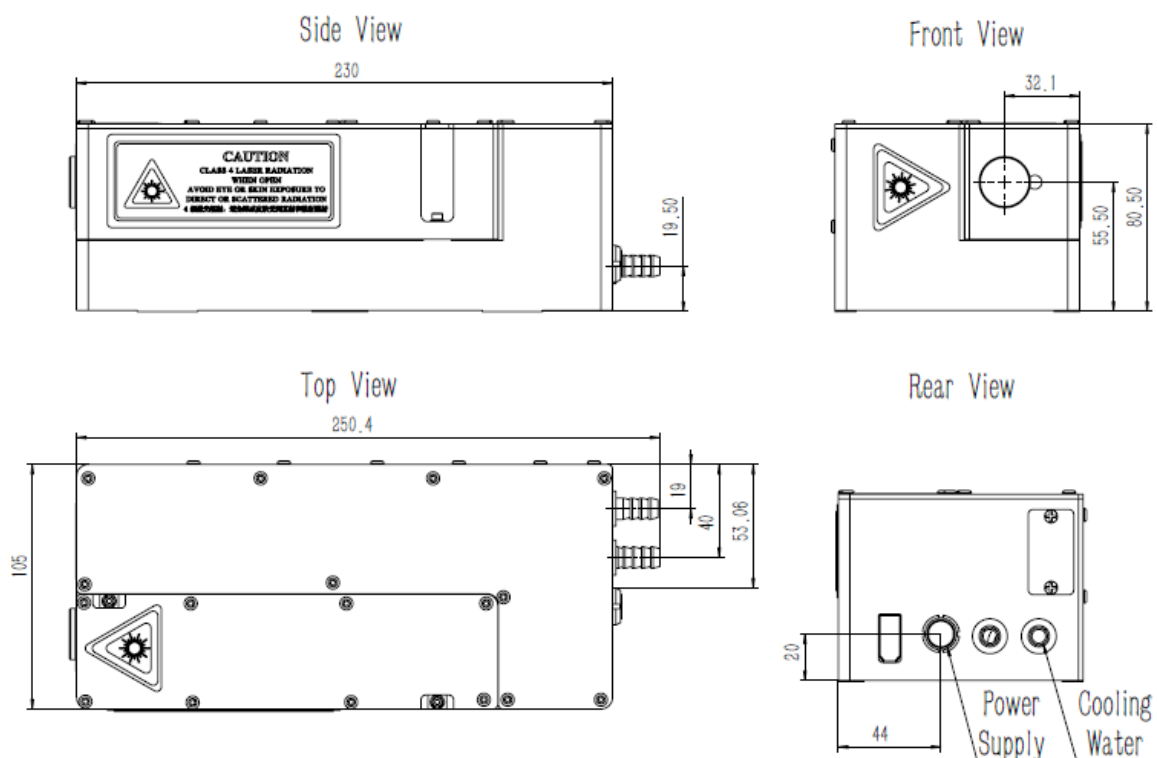
*TINY-L series provide most compact and portable flashlamp pumped nanosecond lasers with high performance and at a very reasonable price. Fast lamp changing unit and cartridge holder type harmonics design make it easier to operate.*

#### APPLICATIONS

- LIDAR
- LIBS
- Remote sensing
- Ablation
- Mass spectroscopy

TINY-100L 355nm Laser Head  
Mechanical Specifications

Unit:mm



# TINY-L series Specifications



## Flashlamp-pumped Compact Nd:YAG ns-laser

### Beam characteristics

Version	TINY-50L	TINY-100L	TINY-200L
Repetition Rate <sup>1</sup> (Hz)	1-30Hz	1-20Hz	1-10Hz
Energy (mJ)			
1064nm	50	100	200
532nm	25	50	100
355nm	10	30	60
266nm	5	10	20
Energy Stability RMS (%)			
1064nm	1%		
532nm	1.7%		
355nm	3%		
266nm	3.5%		
Power Drift <sup>2</sup> (%)			
1064nm	3%		
532nm	5%		
355nm	8%		
266nm	10%		
Pulsewidth FWHM <sup>3</sup> (ns)	4-5ns @1064nm		
Divergence <sup>4</sup> (mrad)	< 1mrad		
Beam Pointing Stability <sup>5</sup> (μrad)	50μrad		
Timing Jitter RMS <sup>6</sup> (ns)	< 1ns		
Beam Diameter (mm)	~4	~5	~6
Transverse Mode <sup>7</sup>	GRM mode (Top hat)		
Polarization	linear		

### General characteristics

AC Input	220 VAC ±5% 50-60Hz
Power Consumption	<800W (typical 100mJ at 20Hz)
Operating Conditions	Temperature 10-35°C Humidity < 60%
Warm Up Time	< 10min

#### NOTES

- 1.All specifications at 1064nm and 10Hz repetition rate unless otherwise noted.
- 2.Average in 8 hours with room temperature variation  $\delta T < 3^{\circ}\text{C}$ .
- 3.Full width at half maximum.
- 4.Full angle for 86.5% of energy.
- 5.Represents RMS value deviation from beam mean centroid.
- 6.With respect to external trigger.
- 7.GRM resonator mode or stable multimode option. Stable version may operate over a wider range of repetition rate and higher output energy compared with GRM mode.

#### Grace Laser Technology Co., Ltd.

Ju Hong BLDG B, Area B, Airport Industrial Park, Shunyi District, Beijing, China

Postcode: 101318

Tel: +86 010-60401920 Fax: +86 010-60401720 Email: sales@gracelaser.com

Web: www.gracelaser.com

