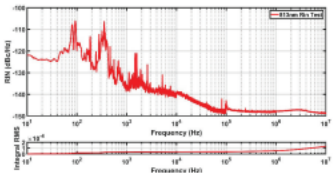
759/813nm Ultra-Noise Single Frequency Laser



The product description

Erbium group offers a high-power, low intensity noise, narrow linewidth highly reliable 759/813nm fiber laser solution (FL-SF-759-2-CW, FL-SF- 813-4-CW) for the magic-wavelength optical for Yb/Sr atomic clock.

- Narrow Linewidth<20 kHz
- Low intensity Noise (RIN -140 dBc/Hz @ 100 kHz)
- High output power (2W@759nm 4W@ 813nm）
- Excellent beam quality (M2 <1.1)
- Wavelength Tunable and high feedback bandwidth




Typical 4 W 813nm laser RIN spectrum

Technical indicators

Model	FL-SF-759-XX-CW FL-SF-813-XX-CW	
Central Wavelength[1], nm	759	813
Linewidth(100us integration)， kHz	<50	< 20
Output Power，W	>2	>4
Feedback Bandwidth，MHz	>1MHz	
Tuning Range，GHz	>80GHz	
RIN	RMS Integration：<0.05%（10Hz-10 MHz）	
Beam Quality	TEM_{00} , M^2 <1.1	
Polarization	Linearly Polarized , > 300: 1	
RMS Power Stability	<0.2%@8h	
Cooling	Air Cooling/Water Cooling	
1:Wavelength could be selected from 614-1000nm		

Structure size

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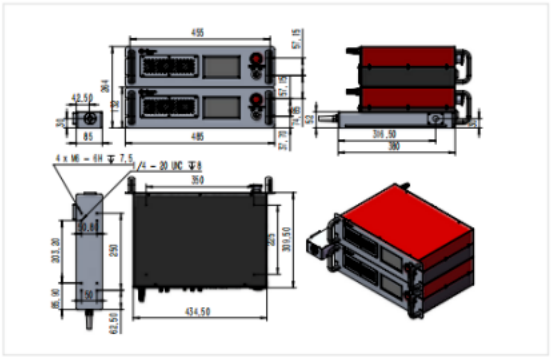
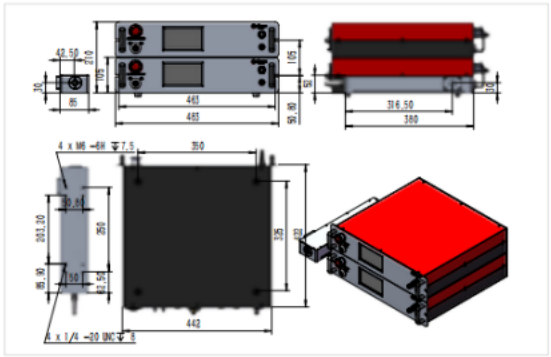
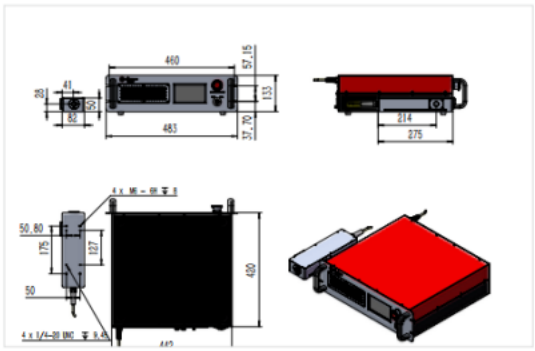


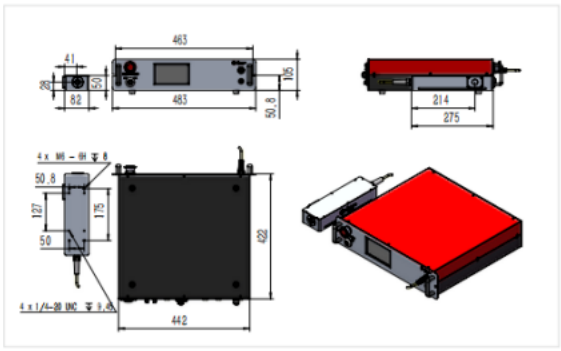
Size for Air-cooling Version



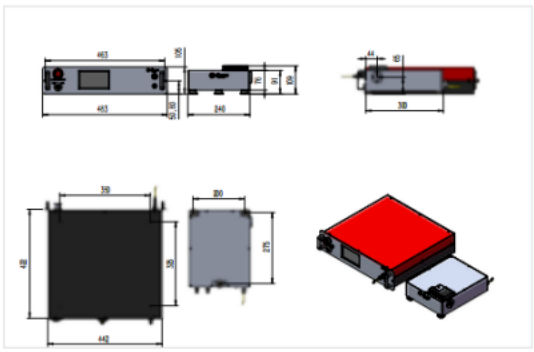
Size for Water-Cooling Version



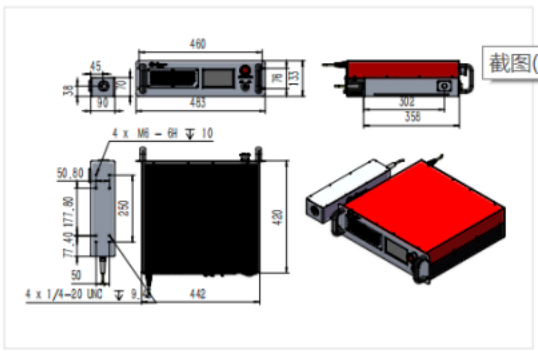
1064 nm 50 w LN fiber laser-Air Cooling



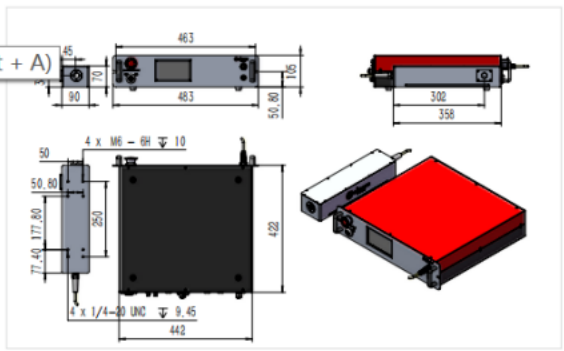
1064 nm 50 w LN Fiber Laser-Water Cooling



1064 nm LN Fiber Laser



532 nm 10 W LN fiber laser-Air Cooling



532 nm 10 W LN Fiber Laser-Water Cooling

Erbium group offers a high-power (up to 15 W), low intensity noise, narrow linewidth highly-reliable 1550 nm fiber laser solution for the coherent detecting, precision measurement physics application.

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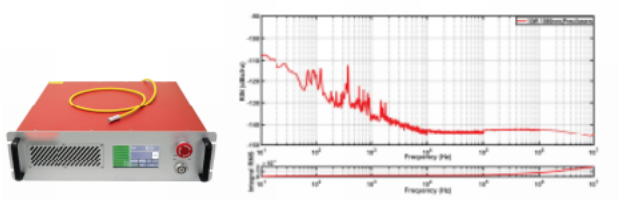


Typical 10 W 1550nm laser RIN spectrum

Key Features:

- Low Intensity Noise (-140 dBc/Hz @100 kHz)
- Narrow Linewidth(<2 kHz)
- Good Beam quality (M^2 <1.1)
- High Power (up to 15 W)
- Operation in harsh conditions
- Full Protection System

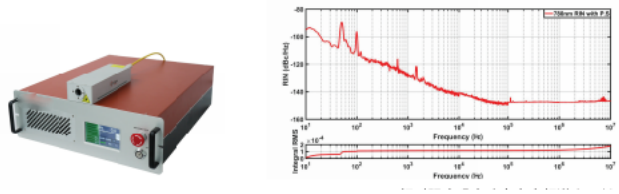
Applications:

- Precision Measurement
- Coherent Detecting
- Fundamental Light for Atom Cooling

Technical indicators

Model	LN-EFA-1550-12
Central Wavelength[1], nm	1550
Linewidth, kHz (250us)	< 10
Tuning Range, GHz	>10
Output Power, W	>15
RIN	RIN: < -140 dBc/Hz (100 kHz) RMS Integration: <0.05% (10Hz-10 MHz)
Beam Quality	TEM_{oo} , M^2 <1.2
Polarization	Linearly Polarization , > 100: 1
RMS Power Stability	<0.5 %@2hrs
Cooling	Air Cooling/Water Cooling
1: Central Wavelength could be selected from1530-1580 nm	

In order to satisfy the Rb atomic interferometer and other applications, Erbium group have developed 780 nm laser with the maximum power of 10 W by utilizing the frequency doubling technology for Rb atom cooling / detection, magic wavelength optical lattice and so on. Due to its excellent environmental adaptability such as portability, low drift and anti-vibration, LN-EFA-SHG-780 nm has been used in the field experiment of Rb atomic interferometer and has completed the several months' operation for the frequency stabilization of saturated absorption spectrum.



Typical 6 W 770nm laser RIN spectrum

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Key Features:

- Narrow Linewidth <200 Hz
- Low RIN (RIN <-130 dBc/Hz @ 100 kHz)
- High Output Power (10 W)
- Good Beam Quality (M^2 <1.1)
- Tunable Wavelength
- Active Power Stability

Applications:

- Rb atom cooling
- Optical Lattice
- Rb atom interferometry

Technical indicators

Model	LN-EFA-D-780-5	LN-EFA-D-780-2.5
Central Wavelength[1], nm	780	780
Linewidth , kHz	< 20	< 20
Tuning Range, GHz	20	20
Output Power	>7	>2.5
RIN	RMS Integration: <0.05% (10Hz-10 MHz)	RMS Integration: <0.05% (10Hz-10 MHz
Beam Quality	TEM_{oo} , M^2 <1.1	TEM_{oo} , M^2 <1.1
Polarization	Linearly Polarized , > 100: 1	Linearly Polarized , > 100: 1
RMS Power Stability	<0.5 %@3hrs	<0.5 %@3hrs
Cooling	Air Cooling/Water Cooling	Air Cooling/Water Cooling
1: Central Wavelength could be selected from 765-790 nm		

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