AMRL003 series UV multiwavelength Raman all-solid-state laser for atmospheric ozone monitoring lidar

DESCRIPTION

AMRL003 series UV multiwavelength Raman all-solid-state laser is a laser source for atmospheric ozone monitoring lidar applications. It can output 532 nm, 590 nm (optional), 580 nm (optional), 295 nm, 280 nm laser at the same time. It is an ideal light source for lidar for atmospheric ozone and aerosol monitoring.

Compared with conventional gas Raman lasers, ultraviolet multiwavelength Raman all-solid-state lasers eliminate gas Raman tubes, which are bulky and require constant maintenance. The Raman conversion part is in the form of Raman crystal. It is characterized by compact structure, high Raman efficiency, maintenance-free and long life. The repetition rate can reach 100 Hz. Lidar navigation observation can be achieved. At the same time, 532 nm laser output is maintained, which can take into account the monitoring of atmospheric aerosols.

This product uses modular design ideas. It is mainly composed of laser head, water cooler and control box. For customer scenarios, this product is designed with low cost and high quality. After rigorous quality testing, can meet the long-term use of customers.

FEATURES

- LD pump, long life
- Solid Raman, Maintenance Free
- Raman efficiency
- Industrial grade 7*24 hour design
- High level of protection, anti-vibration design

APPLICATIONS

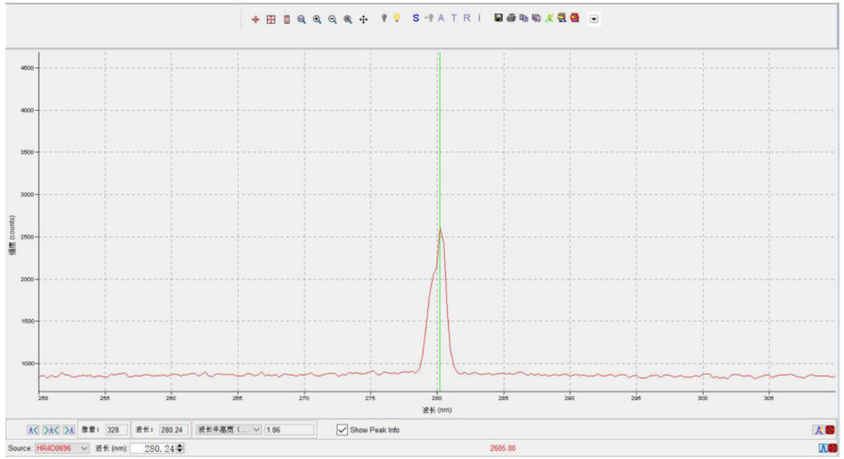
- Lidar for Ozone Monitoring
- Atmospheric Particle Monitoring Lidar

PARAMETERS

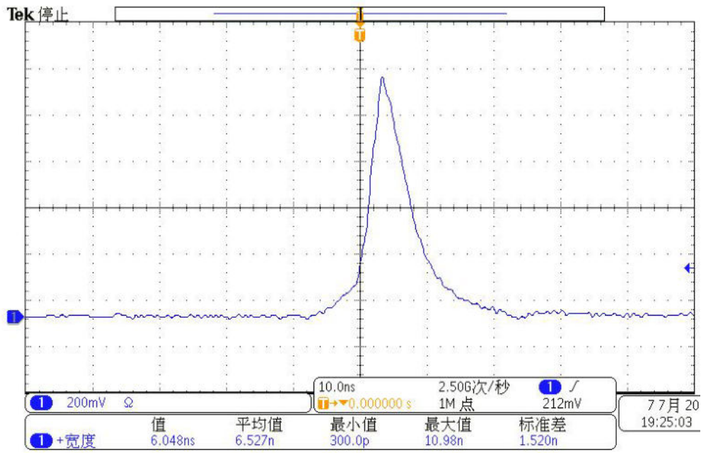
Parameter	Data		
Model	UL-3mJ-100Hz-AMRL003		
Wavelength	280nm	295nm	532nm
Energy	>500μJ	>500μJ	>3mJ
Pulse width	6-10ns		
Repetition frequency	100Hz		
Full angle of beam divergence	<0.3 mrad		
Spot diameter	~20mm		
Polarization ratio	Horizontal polarization, polarization ratio>100:1		
Beam directivity	≤±30μrad		
Q-switch triggered synchronous output	3~ 5V@50 ΩTTLPulse Width 1.8μsJitter <2ns		
Communication interface	RS232 communication protocol		
Cooling mode	Water-cooling		
Power supply	220V AC or 380V AC		
Power waste	≤2500W (water cooler and laser power)		
Working temperature	15~+30℃		
Storage temperature	0~+50℃, Low temperature storage requires cooling water removal		
Relative humidity	0~80%		
Vibration requirements	Vibration of highway transportation		

www.ulasers.com
sales@ulasers.com
+86-021-69913696
No.599, Huiwangdong Road, Jiading District, Shanghai, China

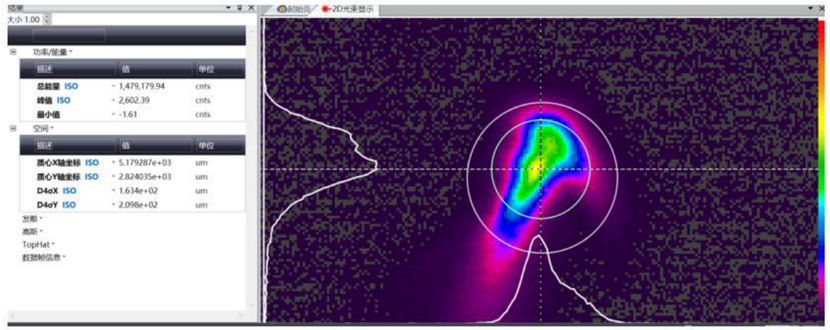
OPTICAL PARAMETERS



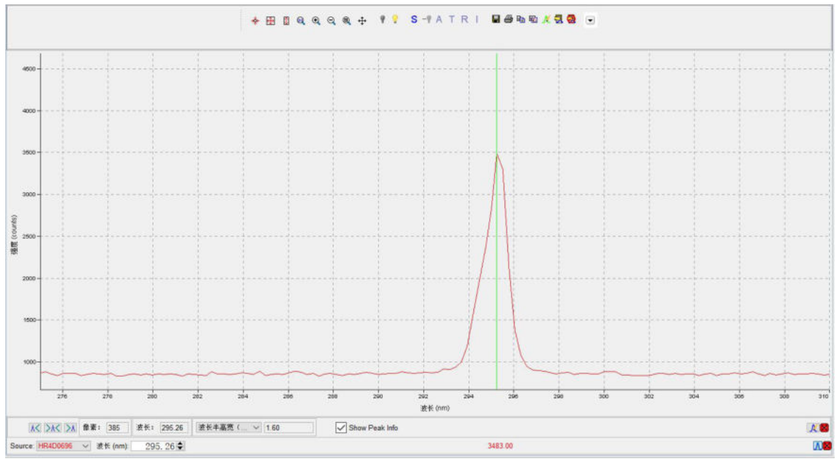
Output wavelength 1: 280.24nm



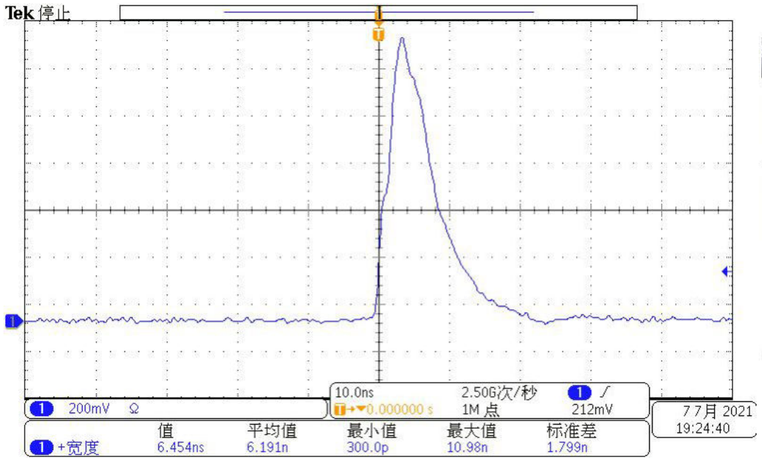
Pulse width < 10ns



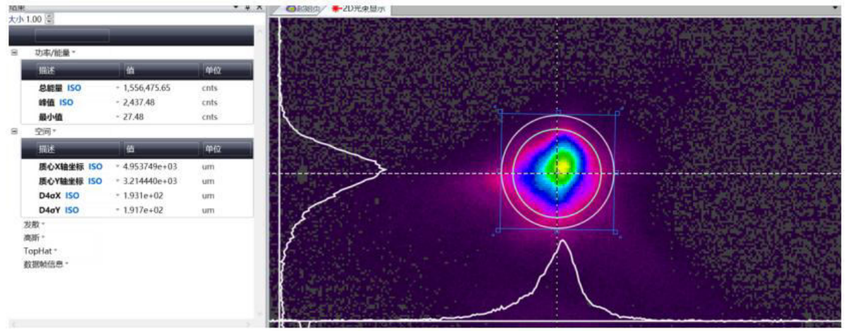
Divergence Angle: X=160μrad, Y=200μrad (full Angle) @280nm



Output wavelength 1: 295.26nm



Pulse width < 10ns



Divergence Angle: X=193μrad, Y=191μrad (full Angle) @295nm

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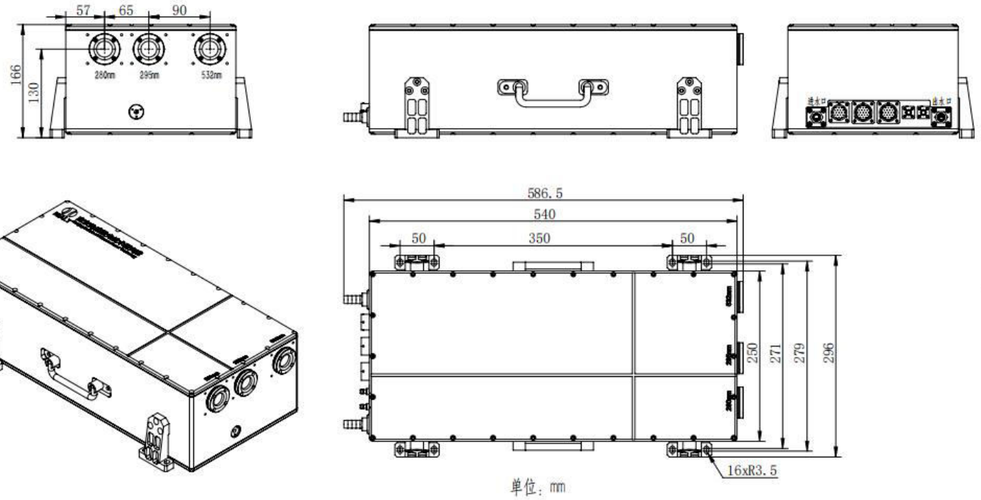
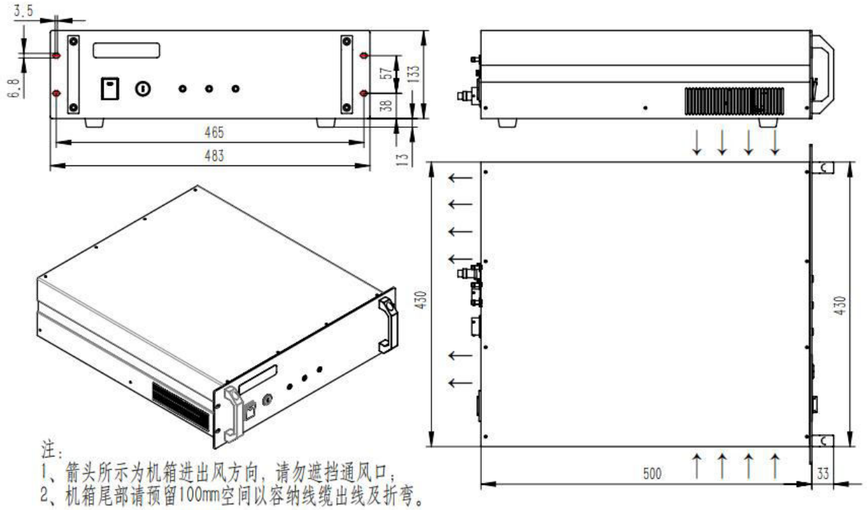
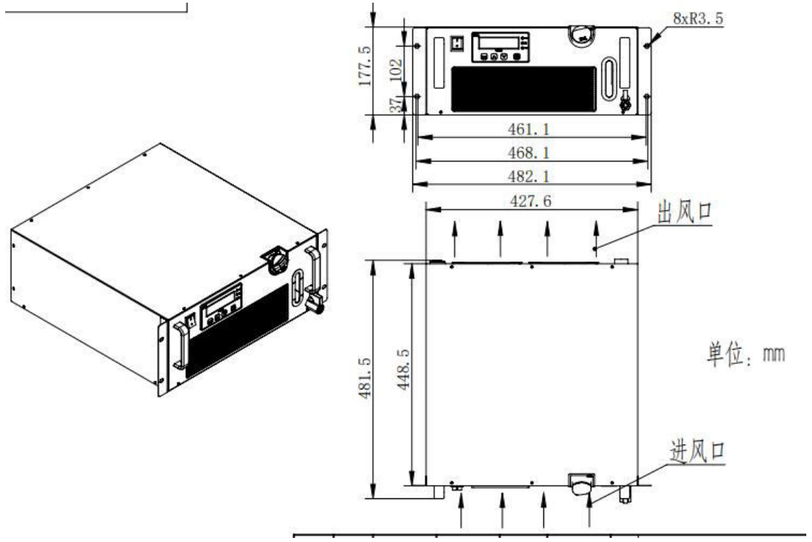
OUTLINE SIZE(mm)



Laser head



Electric cabinet



Water cooled chiller