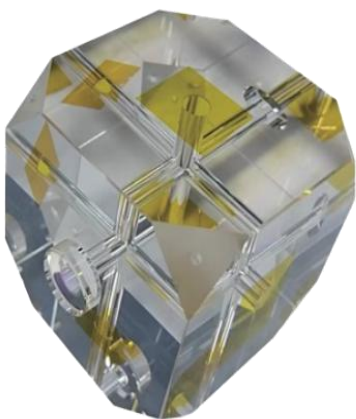




High Finesse FP Cavity System

Based on high-finesse mirrors, ULE cavity and vacuum system, Precilasers can provide high-finesse FP cavity with extremely low thermal noise.



Features

- High Precision
- Portable
- Vibration Insensitive

Applications

- Optical Precision Measurement
- Quantum Computing
- Quantum Precision Measurement

Specification		
Partnumber	Preci-USL-X ⁽¹⁾	
Optional Wavelength	400-1800nm	
Typical Wavelength	509nm, 578nm, 1542nm, 1762nm	
Cavity Length	50±3mm	125±3mm
Free Spectral Range	3GHz	1.2GHz
Thermal Noise Limit	2×10 ⁻¹⁵	9×10 ⁻¹⁶
Finesse	1000, 10000, 200000	
Drift ⁽²⁾	<150mHz/s	
Vacuum	1×10 ⁻⁷ mbar	
Temperature Control Stability	<2mk, rms	
Vacuum Chamber Size	220mm×200mm×160mm	290mm×270mm×260mm
FP Cavity Mirrors Specification	ULE material, flat concave cavity, concave mirror curvature radius 500mm/1000mm/2000mm optional	
Vacuum Chamber Thermal Time Constant	>20hrs	
Vacuum Windows Tilt Angle	~4°	

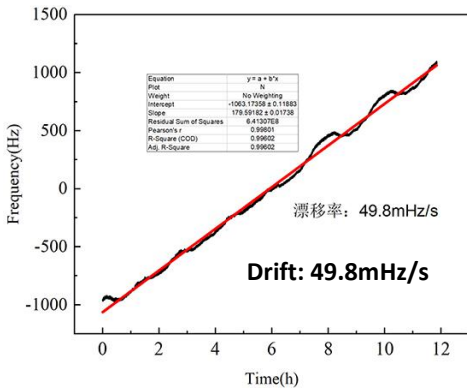
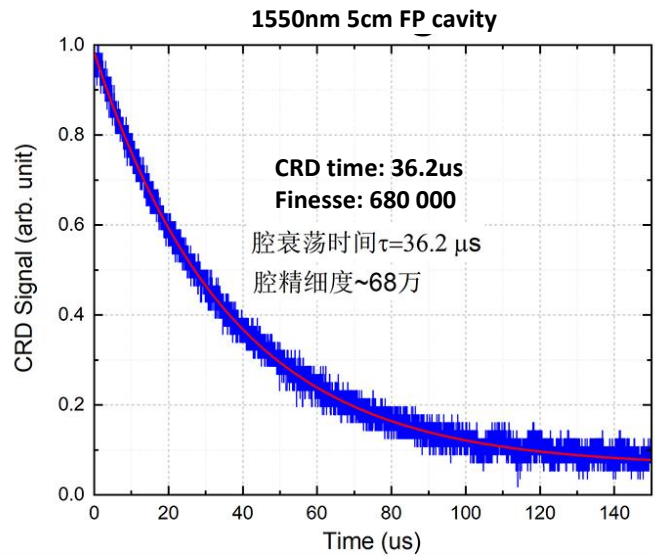
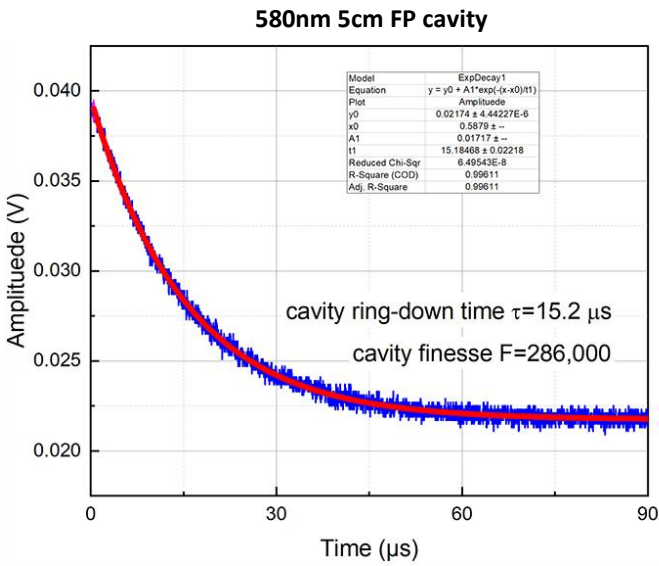
Environment and Power Supply	
Temperature	20±7°C
Ambient Temperature Sensitivity	<3mK/°C
Power Supply	100V-240V, AC, 50/60Hz

Options	
Zero Expansion Temperature Test	Provide zero expansion temperature test curve
Locking Circuit Module	Precilock-PDH module, dual-channel fast PID output, bandwidth 3MHz & 8MHz
Locking Optical Module	Input with PM fiber, FC/APC connector, EOM and low noise PD included
Axis	Two high-precision cavity mirrors can be installed vertically
Vibration Isolation	Active Vibration Isolation Table

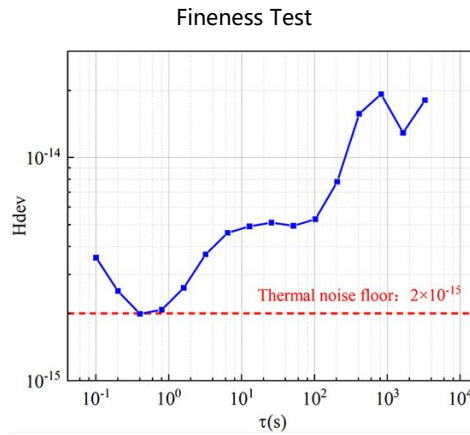
(1) X is the cavity length, for 50mm FP cavity, the partnumber is Preci-USL-50

(2) The zero expansion point needs to be tested and the temperature control point is set near the zero expansion point

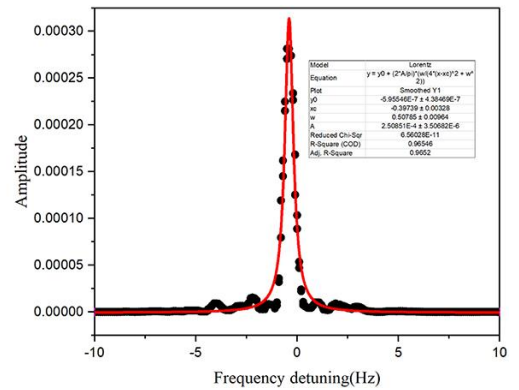
❖ Performance (typical value)



Frequency Drift Test



Frequency Stability Test



Linewidth Test




Shanghai Precilasers Technology Co., Ltd.

📍 Floor 2, Building 2, No. 1918, Xupan Road, Jiading District, Shanghai

☎ 021-59160265

www.precilasers.com info@precilasers.com



⚠ Laser Hazard

Visible or invisible laser radiation, avoid eye or skin exposure to direct, reflected or filtered radiation.
CLASS 4 Laser Products

