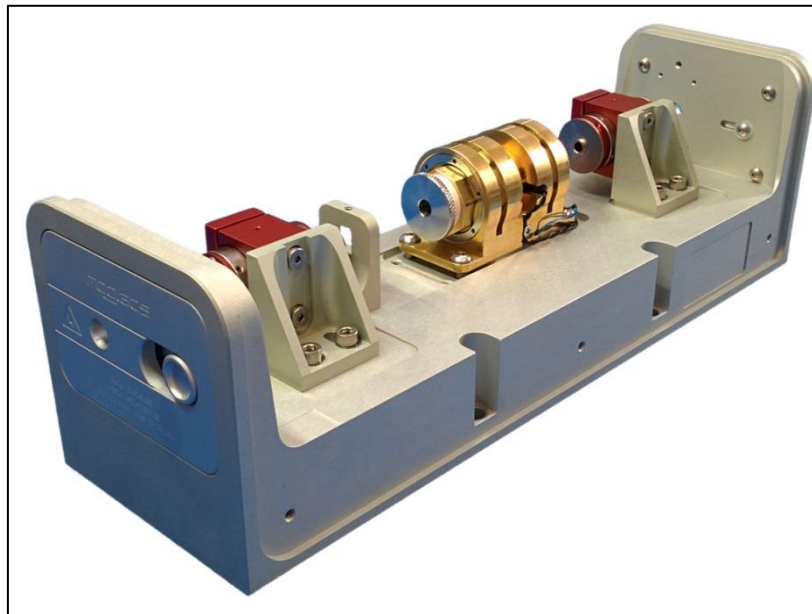




MOA002 Optical Amplifier



The MOGLabs Optical Amplifier is an indispensable extension for single-frequency external cavity diode lasers.

Laser power is increased by up to 2W, while maintaining the tunability and linewidth of the injection seed laser.

Replacement of the amplifier diode and alignment are easily accomplished by the end-user. Input and output Faraday isolators are a recommended optional addition. Wavelength options extend from 630nm to 1064nm, and power from 500mW to 2W.

Features

- Wavelength 630nm – 1064nm
- Output power up to 2W
- Nearly diffraction limited
- Easy coupling to master oscillator

Benefits

- High performance, low cost
- Stable and robust
- Use with MOGLabs External Cavity Diode Lasers ECD004 and CEL002 or your own laser

Applications

- Laser cooling and trapping
- Bose-Einstein condensation
- Quantum optics: squeezed light
- Electromagnetic transparency and slow light
- Time and frequency standards
- Laser spectroscopy
- Physics teaching labs

Optical Amplifier

Specifications MOA002

Wavelength/frequency

Wavelength	630nm – 1064nm
Gain bandwidth	10nm to 30nm, wavelength dependent
Power	500mW, 1W and 2W options, wavelength dependent
Gain	Up to 23dB (200x)
Minimum input power	10mW
Maximum input power	Saturation at 30mW
ASE suppression	>45dB

Optical

Beam diameter ($1/e^2$)	Typically 1.8 x 3.0 mm
Beam quality	$M^2 < 1.7$ typically; $M^2 < 2.0$ max
Beam divergence	<1.5 mrad (630 – 670nm: <2.5 mrad)
Polarisation	Vertical linear 100:1

Thermal

TEC	$\pm 14.5V$ 3.3A Q = 23W standard
Sensor	NTC 10k Ω standard; AD590, 592 optional
Cooling	Quick-fit water cooling, ϕ 6mm

Electronics

Protection	Relay, cover interlock connection, reverse diode
Indicator	Laser ON/OFF (LED)
Connectors	DE15

Dimensions

Dimensions	295 x 90 x 90mm (LxWxH), 3.6kg
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