

MIRAGE MID-IR OPO LASER

Product : MIRAGE MID-IR

OPO LASER

Product Introduction:



Key Features:

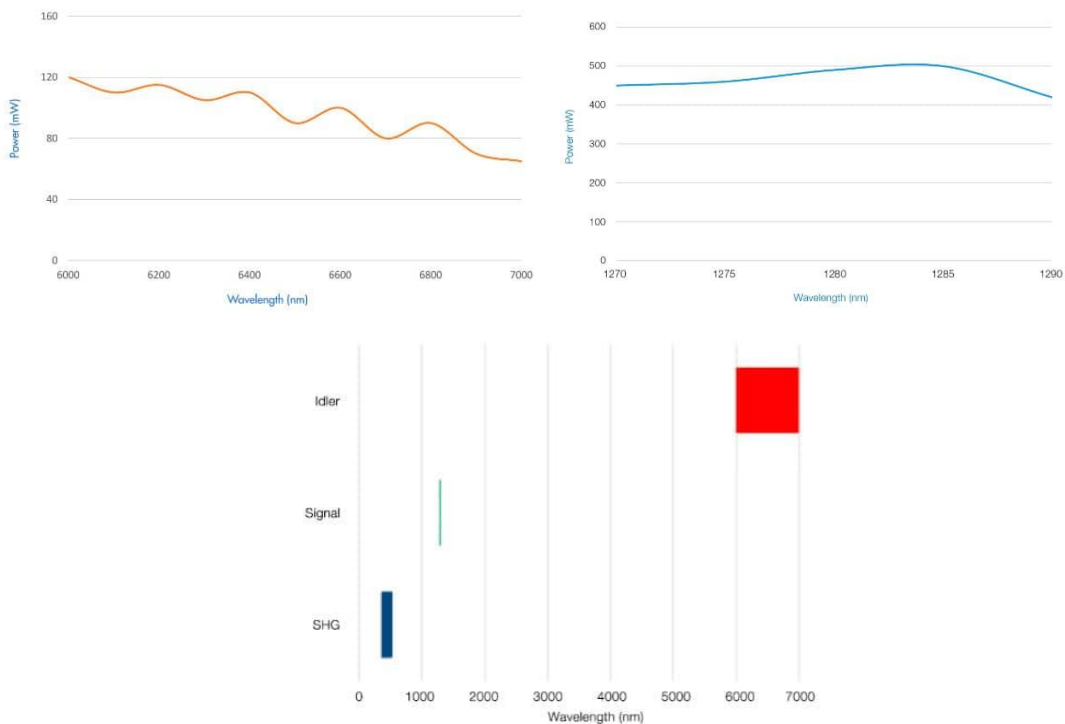
- Fully-integrated OPO-based laser system for the mid-IR with wide tuning across 1270-1290 nm (7751 – 7874 cm⁻¹) and 6000 – 7000 nm (1428 – 1666 cm⁻¹) without any change of optics
- High output power with >500 mW at peak of the signal and >100 mW at peak of the idler range
- 2 Simultaneous outputs available: 1) signal and 2) idler
- Femtosecond pulse duration across the range
- Dispersions adjustment independent for each wavelength for minimum pulse duration
- Excellent beam pointing stability across the complete spectral range with TEM₀₀ spatial profile
- Hands-free operation with dedicated control software. Control drivers available
- Sealed, compact, and virtually maintenance-free

Description: The MIRage is the first commercial mid-IR OPO based laser system [>4000 nm (>2500 cm⁻¹)]. It offers unprecedented tuning coverage and power levels in the mid-IR [>100 mW across 6000 – 7000 nm (1428 – 1666 cm⁻¹) and >500 mW across 1270 – 1290 nm (7751 – 7874 cm⁻¹)], in a sealed and fully-automated laser enclosure for maximum reliability and usability. The MIRage incorporates, for the first time, a fiber pump laser and a mid-IR [>4000 nm (>2500 cm⁻¹)] OPO in a single platform, providing maximum power stability in a compact design. Three output ports deliver 1) the idler, 2) the signal and 3) the pump bypass. To ensure shortest pulse durations across the spectral range, an advanced dynamic dispersion compensation module is included within the MIRage, allowing independent optimisation of the pulse length for different wavelengths. Additionally, excellent beam pointing stability with time and wavelength is provided which increases usability in applications where reduced beam misalignment due to laser beam displacement is required.

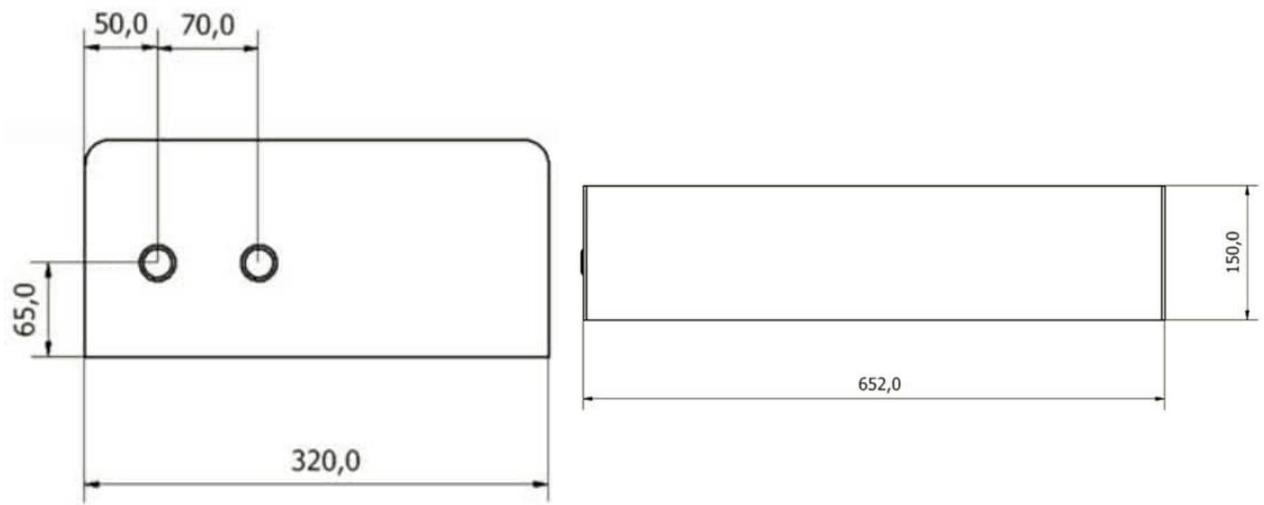
Specifications:

Output Characteristics	MIRage
Idler Tuning Range	6000 – 7000 nm (1428 – 1666 cm ⁻¹)
Signal Tuning Range	1270 – 1290 nm (7751 – 7874 cm ⁻¹)
Idler Output Power	> 100 mW
Signal Output Power	> 450 mW
Signal Pulse Width	< 200 fs at 1205 nm (8298 cm ⁻¹)
Idler Pulse Width	< 200 fs
Beam Diameter	3 mm +/- 10 %
Spatial Mode	TEM00
Noise	< 1 % rms
Output Ports	1) Signal 2) Idler
Power Stability	< 5 %
Polarization	Linear
Size (W x L x H)	652 x 320 x 150 mm (25.7 x 12.6 x 6 inch)

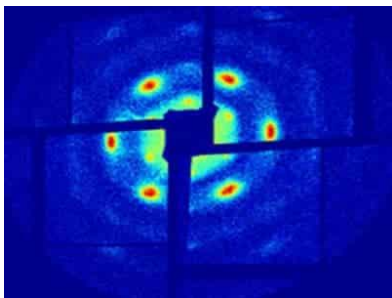
Performance charts



Dimensions:



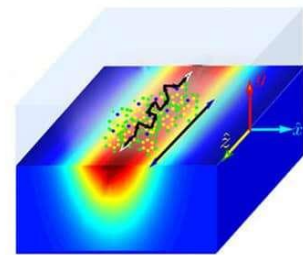
Applications:



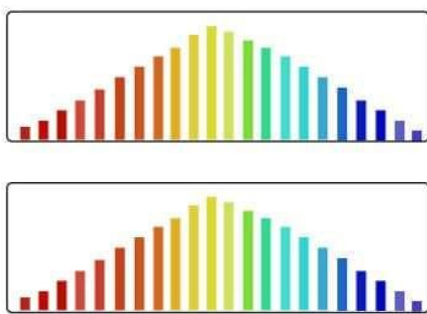
Multiple wavelength
pump-probe experiments



Semiconductor research
and spectroscopy



Vibrational overtone
spectroscopy



Single and dual-comb
spectroscopy



Time-resolved spectroscopy
in the Mid-IR