SINGLE FREQUENCY

Single-frequency visible and near-infrared fibre lasers

Single-frequency systems combining a seed, fibre amplifier and single-pass frequency conversion.

Applications to discuss: Atomic physics; Holography; Laser spectroscopy.

Selection points
460-950 nm selected options / <100 kHz emission linewidth / Visible and near-infrared configurations

Configuration options

Output wavelength	Output power	Intensity noise, RMS
460-466 nm	500 mW	0.5%
514-550 nm	≤5 W	0.5%
633 nm	≤1 W	0.1%
767-790 nm	≤5 W	0.5%
865-950 nm	≤4 W	0.5%

Each row is a separate configuration. Limits from different rows must not be combined.

Technical details

Parameter	Specification or condition
Emission linewidth	<100 kHz
Noise integration bandwidth	5 Hz-100 kHz
Polarization extinction ratio	>20 dB
Beam propagation factor	M^2 <1.2
Polarization	Linear

Integration and delivery

Item	Configuration detail
Format	Air-cooled 2U, 19-inch seed and amplifier enclosure
Conversion	Single-pass second-harmonic generation
Delivery and tuning	Collimated beam; fibre-output option and optional piezo tuning require configuration review

Conditions and configuration notes

- The intensity-noise entry at 633 nm is 0.1%; the other listed bands state 0.5%.
- Wavelength choices across the family do not imply a continuously tunable output across the full span.
- Linewidth measurement conditions and power after optional fibre delivery must be confirmed.