FIBRE AMPLIFICATION

Single-frequency near-infrared fibre amplifiers

Wavelength-specific fibre amplifier configurations for externally seeded narrowband systems.

Applications to discuss: Seeded laser systems; Quantum-optics experiments; Precision metrology.

Selection points
775-1950 nm selected output bands / Nine wavelength-specific configurations / Up to 20 W in one water-cooled band

Configuration options

Output band	Listed output power
775-800 nm	≤4 W
813 or 832 nm	≤4 W
1100-1280 nm	≤20 W
1290-1360 nm	≤15 W
1370-1400 nm	≤5 W
1410-1525 nm	≤8 W
1600-1720 nm	≤5 W
1530-1590 nm	≤10 W
1730-1950 nm	≤10 W

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

Technical details

Parameter	Specification or condition
Input power range	10-50 mW; input wavelength and required seed quality to confirm
Polarization extinction ratio	20 dB
Beam propagation factor	M^2 <1.1

Integration and delivery

Item	Configuration detail
Output delivery	Fibre or collimated delivery, depending on the wavelength configuration.

Conditions and configuration notes

• An external single-frequency seed is required. Confirm the input wavelength, seed power, seed linewidth and whether the seed is included.

• The 775-800 nm and 813/832 nm options may require conversion. Confirm the input wavelength and included stages.

• The 20 W limit requires water cooling and applies only to 1100-1280 nm. Confirm cooling for every other configuration.

• No common numerical gain, output linewidth or noise figure is specified across these bands.