



PERLA[®] 100

PERLA[®] series – Ultra-short pulse lasers with high average power.

PERLA[®] series lasers are compact laser systems based on a thin-disk regenerative amplifier delivering picosecond pulses with pulse energy up to 20 mJ*. The product portfolio covers repetitions from 1 to 200 kHz. It incorporates a fibre front-end seeding the amplifier and a versatile control system allowing precise control and monitoring of the laser. The robust design guarantees excellent stability and maintenance free operation.

Strengths

- Unique combination of energy per pulse and beam quality
- Suitable for multi-beam micromachining and surface structuring
- Extra fast process speed and high efficiency using 1000s of beams at once
- High harmonics available (SHG, THG, FHG)
- Optical parametric amplifier available
- Laser source can be modified to fit your application

Technical Specifications

Specification	PERLA [®] 100	PERLA500**
Centre wavelength	1030 nm	1030 nm
Average power	Max 100 W	Max 500 W
Power stability	< 0.5 % RMS	< 0.5 % RMS
Pulse energy	max. 20 mJ*	max. 10 mJ*
Pulse energy stability	< 1 % RMS	< 1 % RMS
Pulse length	1 ps	< 2 ps
Repetition rate	1 -200 kHz	50-200 kHz
Beam quality (M2)	< 1.15	< 1.4
Output polarisation	Linear, > 100:1	Linear, > 100:1
Output beam diameter	~ 3 mm	~ 3 mm
Dimensions	1,3 m x 0,8 m x 0,3 m	1,3 m x 0,8 m x 0,3 m

Operating requirements

Operating voltage	5P/32A/400V
Operating temperature	23 ± 1 °C
Relative humidity	20 – 50 % (non-condensing)

* Higher values can be reached by customised products.
 **Custom-built system: specific technical parameters are individually agreed with a customer.

- ✓ Stable and reliable laser source
- ✓ Flexible modifications of output parameters
- ✓ Customised solutions available upon request

Areas of Application

- ✓ High Harmonics Generation
- ✓ Optical Parametric Generation
- ✓ Laser Induced Damage Threshold
- ✓ Efficient Micromachining

HiLASE Centre · Institute of Physics of the ASCR, v.v.i. · Za Radnici 828, CZ-25241 Dolni Brezany
 ✉ solutions@hilase.cz · in hilase-centre · 📞 (+420) 314 007 718 / 314 007 710 · 🌐 www.hilase.cz