

ORPHEUS | TWINS

Dual Optical Parametric Amplifier



Two simultaneous independently tunable outputs

210 – 16000 nm tuning range

Single-shot – 2 MHz repetition rate

Up to 60 W, 0.5 mJ pump

Compact and cost-effective

CEP-stable option

Specifications

MAIN OUTPUT

Tuning range	Choice between ORPHEUS, ORPHEUS-F, and ORPHEUS-ONE configurations
Output pulse energy	Depends on the configuration, see the specifications of the chosen models
Spectral bandwidth	Depends on configuration, 100 – 750 cm^{-1}
Pulse duration	Depends on configuration, down to < 50 fs
Supported repetition rates	Single-shot – 2 MHz

PUMP LASER REQUIREMENTS

Required pump laser	PHAROS or CARBIDE
Center wavelength	1030 \pm 10 nm
Maximum pump power	60 W
Repetition rate	Single-shot – 2 MHz
Pump pulse energy	16 – 500 μJ
Pulse duration ¹⁾	120 – 500 fs

PHYSICAL DIMENSIONS

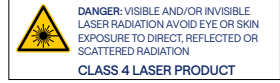
Dimensions, incl. wavelength separators (W \times L \times H)	810 \times 430 \times 164 mm
Dimensions of system with PHAROS and beam routing (W \times L \times H)	910 \times 850 \times 215 mm

ENVIRONMENTAL & UTILITY REQUIREMENTS

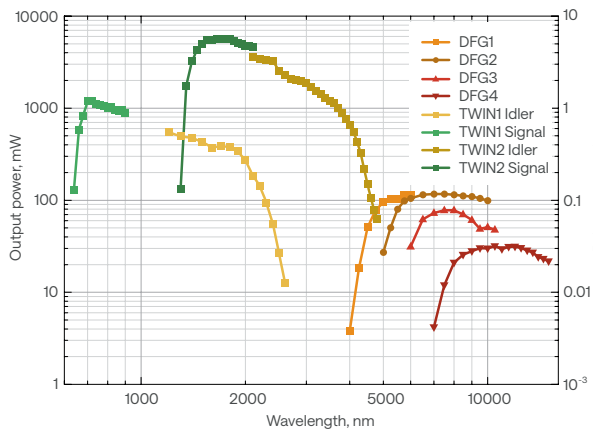
Operating temperature ²⁾	19 – 25 °C (air conditioning recommended)
Output pulse energy ²⁾	20 – 70% (non-condensing)
Electrical requirements	100 – 240 V AC, 4.5 A; 50 – 60 Hz
Rated power	280 W
Power consumption	Standby: 20 W Max during wavelength tuning: 200 W

¹⁾ FWHM, assuming Gaussian pulse shape.

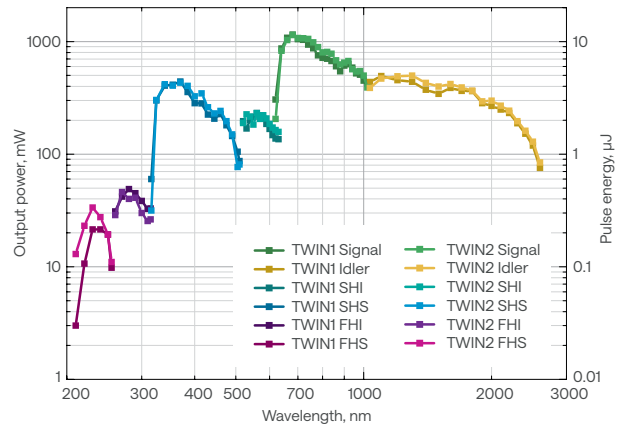
²⁾ Specifications are guaranteed for a maximum temperature variation of ± 1 °C and humidity variation of $\pm 10\%$.



ORPHEUS-TWINS (ONE / F configuration)
tuning curves. Pump: 40 W, 40 μ J, 1000 kHz



ORPHEUS-TWINS (ORPHEUS / ORPHEUS configuration)
tuning curves. Pump: 20 W, 20 μ J, 100 kHz



For custom tuning curves visit
<http://toolbox.lightcon.com/tools/tuningcurves/>

Drawings

ORPHEUS-TWINS drawings

