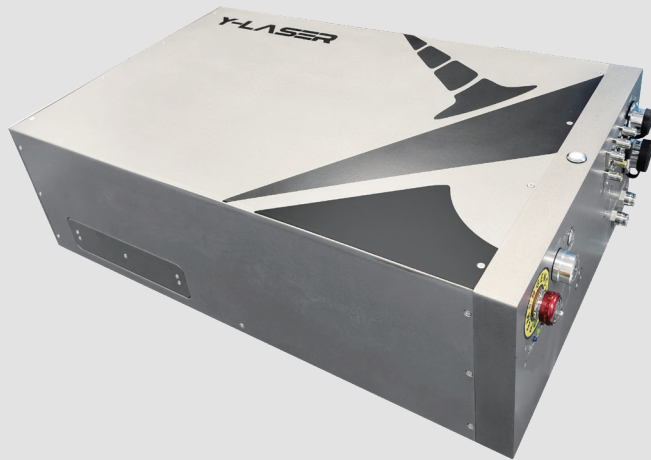


HELIOS

Compact Femtosecond Solid-State Laser



Maximum customizable single pulse energy: up to 400μJ

Maximum average power: up to 20W

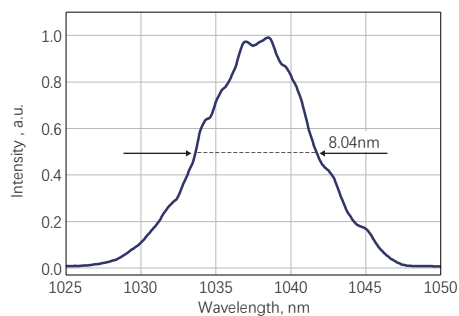
Adjustable pulse width: 190fs - 10ps

Repetition rate: single shot to 1MHz

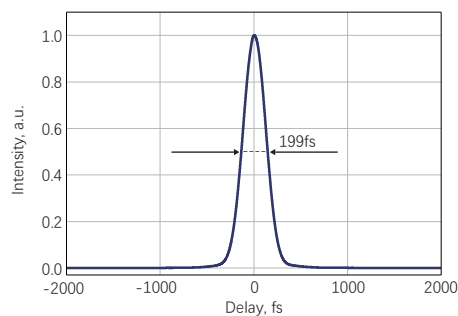
Laser output mode: TEM00, $M^2 < 1.2$

Power stability: $< 0.5\%$ RMS

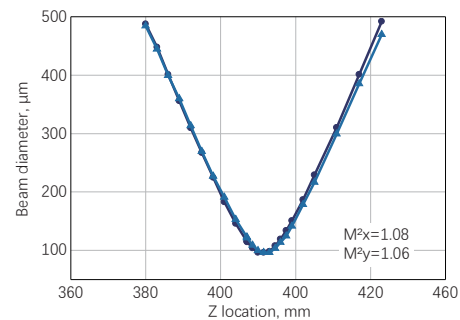
HELIOS-HP Typical Spectrum



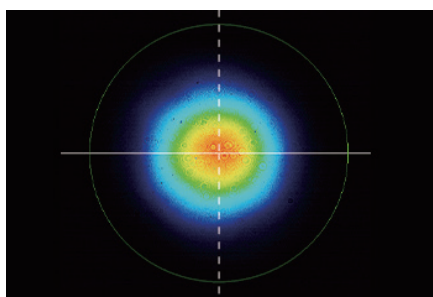
HELIOS-HP Typical Pulse Width



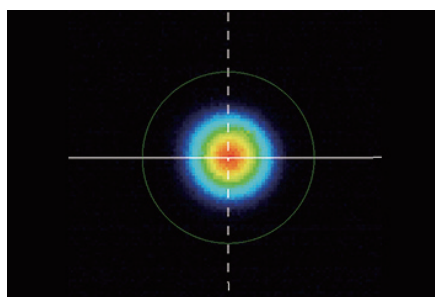
HELIOS-HP Typical M^2 Measurement Data



HELIOS-HP Typical Near-Field Beam Profile

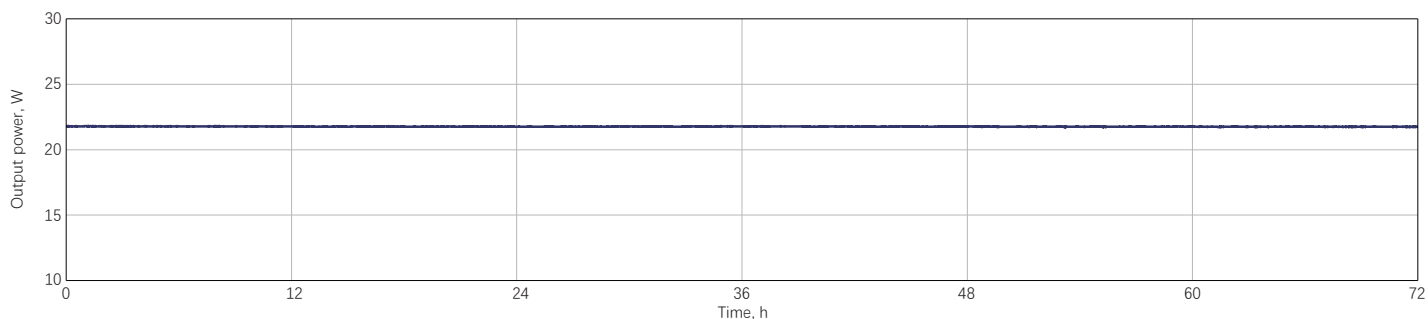


HELIOS-HP Typical Far-Field Beam Profile



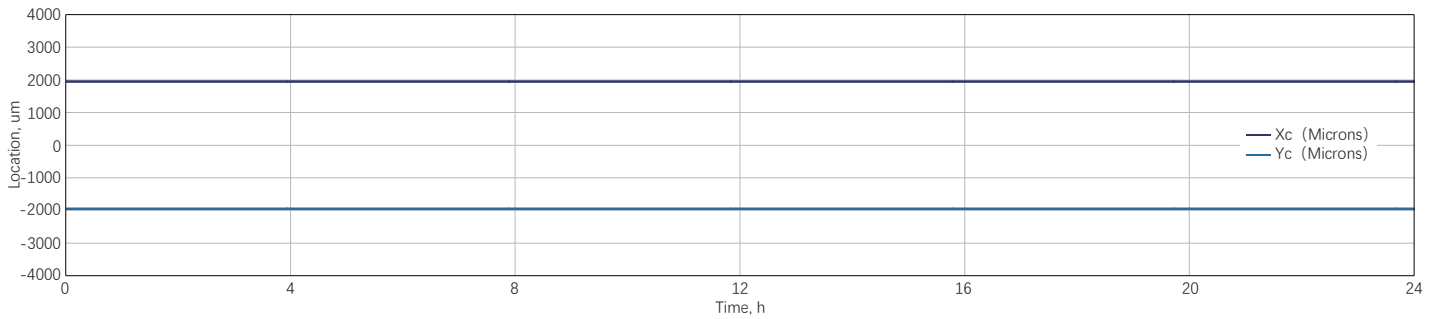
HELIOS-HP

Power Stability: RMS=0.0532%@72h



HELIOS-HP

Pointing Stability: RMS=2.6 μ rad@24h



Specifications

Parameter	HELIOS-10W-HP	HELIOS-20W-HP
Maximum output power	10W	20W
Maximum single pulse energy	400 μ J	
Pulse duration	<250fs (190fs optional)	
Pulse width adjustment range	250fs - 10ps (190fs - 10ps optional)	
Repetition frequency range	25kHz - 100kHz (25kHz - 1MHz) optional	50kHz - 100kHz (50kHz - 1MHz) optional
Pulse selection	Single shot - 100kHz (Single shot - 1MHz) optional	
Central wavelength	1036 \pm 5nm	
Polarization	Linear polarization	
Beam quality	M ² <1.2	
Beam diameter	5 \pm 1mm	
Pulse pointing stability	< 20 μ rad/ $^{\circ}$ C	
Pre-pulse contrast	<1:1000	
Post-pulse contrast	<1:500	
Pulse energy stability	<1% RMS @8h	
Long-term power stability	<0.5% RMS @24h	
Dimensions	668 \times 400 \times 223mm (L \times W \times H)	
Weight	61kg	
	Expansion Options	
Harmonic output	Integrable, 516nm, 345nm, 259nm	
Optical parametric amplification output	Integrable, 210 - 1600nm	
MPC short pulse output	Integrable, output pulse width <35fs, energy transmission efficiency >90%	
Operating Modes	PSO, POD, Gate, Burst, etc.	
Remaining weight	24kg (Water-cooled machine) +2kg (frequency doubling)	
Power supply requirements	Laser head: AC 220V/10A ; Water-cooled machine: 220V/0.6-7.7A/1.26kW (CWUP-20AI)	

Drawings

HELIOS-HP Outline Drawing

