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ExciStar™ S

Small Investment - Big Performance



The ExciStar S-Series is a versatile UV light source delivering excellent performance for low- and mid-range duty cycle operation in scientific and industrial applications, including:

- Spectroscopy
- Testing and Measurement
- Micromachining
- Ophthalmology: Laser Vision Correction
- Fiber Bragg Grating Production
- Laser Ablation and Deposition
- Gemstone and Small Component Marking

With an installed base of over 1,000 ExciStar S-Series excimer lasers worldwide, this series is one of the most reliable UV light source on the market today. Technological advances which have been doubling the performance of discharge tubes and optics approximately every two years, mean modern systems are more robust than was even thought possible some years ago. TuiLaser has once again carefully optimized its ExciStar S-Series excimer lasers to meet the demanding requirements of various UV applications.

ExciStar™ S - Technical Specifications

Sophisticated technological enhancements including Solid State Switching and Corona Preionization of the discharge ensure long term stability, excellent shot-to-shot noise characteristics, and a homogeneous beam profile in our high repetition rate excimer lasers. Additionally, the ExciStar S-Series offers an easy-to-use triggering protocol to allow appropriate synchronization of all component devices.

The ExciStar S-Series offers these features

- Up to 18 mJ at 500 Hz
- Corona Preionization
- Solid State Switching
- High Repetition Rates
- Plug & Fire - No Warm-Up
- High Spatial and Temporal Beam Stability
- Extremely Compact Size (LxWxH: 650 x 460 x 270 mm³)
- Modular Design
- Low Investment Costs
- Ease of Use
- Electrical and Gas Safety
- Fully Controllable via Touch Panel or Windows Software Interface
- Air Cooled, Single Phase Operation (100 V - 240 V at 50 - 60 Hz)

Usually these features are only available in high-cost UV systems for micro-lithography. Worldwide, TuiLaser is the only manufacturer incorporating these sophisticated technologies in extremely compact, economical, table-top and turn-key excimer laser systems. TuiLaser is your source for affordable highperformance excimer laser technology.

See also:

Get our PDF datasheet "ExciStar S"

Product References



Click image for a technical drawing in seperate window

Laser Medium	F_2	ArF	KrF	XeCl	XeF
Wavelength	157 nm	193 nm	248 nm	308 nm	351 nm
Tube Design	FutureTube ™	CeraTube ™	CeraTube™	CeraTube ™	CeraTube ™
High Voltage Switching Technique	Solid State Switch	Solid State Switch	Solid State Switch	Solid State Switch	Solid State Switch
Preionization Technique	Corona Preionization	Corona Preionization	Corona Preionization	Corona Preionization	Corona Preionization
Energy max.[3]	1 mJ	10 mJ	18 mJ	8 mJ	8 mJ
Average Power max.					
ExciStar S-200	200 mW	2 W	3 W	1,5 W	1,5 W
ExciStar S-500	400 mW	4,5 W	8 W	3,5 W	3,5 W
Repetition Rate max.					
ExciStar S-200	200 Hz	200 Hz	200 Hz	200 Hz	200 Hz
ExciStar S-500	500 Hz	500 Hz	500 Hz	500 Hz	500 Hz
Pulse Duration	15 ns (FWHM)	10 ns (FWHM)	10 ns (FWHM)	10 ns (FWHM)	10 ns (FWHM)
Energy Stability [4]	$\sigma < 3\,\%$ (Standard Deviation)	$\sigma < 2\,\%$ (Standard Deviation)	$\sigma < 2\,\%$ (Standard Deviation)	$\sigma < 2\,\%$ (Standard Deviation)	$\sigma < 2\,\%$ (Standard Deviation)
Beam Dimensions	3 mm x 3 mm (FWHM)	3 mm x 6 mm (FWHM)	3 mm x 6 mm (FWHM)	3 mm x 6 mm (FWHM)	3 mm x 6 mm (FWHM)
Beam Divergence	< 1.5 mrad x 1.5 mrad (FWHM)	< 1 mrad x 2 mrad (FWHM)	< 1 mrad x 2 mrad (FWHM)	< 1 mrad x 2 mrad (FWHM)	< 1 mrad x 2 mrad (FWHM)

2) All specifications are typical data and subject to change without notice in order to provide the best product possible
3) Allow 15 % reduction of output energy and power, if laser is equipped with energy stabilization module
4) Measured at Max. High Voltage (1500V)



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