

# StaxxBeam

By Oxxius

<b>Product range</b>	Single Frequency Lasers
<b>Product name</b>	StaxxBeam 553 nm (fixed power)
<b>Reference</b>	LCX-553S (fixed power)
<b>Description</b>	<p>The StaxxBeam 553 is a compact and powerful 553 nm laser source that delivers a narrow linewidth emission and a spectrum of outstanding purity. Its robust design, complete with readily available safety features makes it well-suited for both laboratory and industrial use.</p> <p>Its proven performance, stability, and versatility make it a trusted solution for laser Doppler anemometry, interferometry, structured illumination microscopy. <b>Key features:</b></p> <ul style="list-style-type: none"> <li>• Single frequency emission, <math>\leq 1</math> MHz linewidth</li> <li>• <math>\leq 1</math> pm wavelength stability</li> <li>• TEM<sub>00</sub> spatial mode</li> <li>• <math>\pm 1.0\%</math> long-term power stability; low optical noise</li> <li>• Integrated control electronics Fully compatible with Oxxius' AOM option, or with MixxWave combiners, in combination with other laser lines.</li> </ul>



## Product Variations

Part Number	Power
LCX-553S-100-CSB-PPF	100 mW
LPX-553S-200-CSB-PPF	200 mW

## Optical Characteristics

<b>Emission wavelength</b>	553 nm
<b>Tolerance</b>	$\pm 0.4$ nm
<b>Power stability over 8 hours, temperature within <math>\pm 3^{\circ}\text{C}</math></b>	$\pm 1$ %
<b>Control modes</b>	Automated power control, fixed or adjustable power level
<b>Optical noise</b>	$\leq 0.2$ % rms, 10 Hz-20 MHz bandwidth
<b>Spectral linewidth</b>	1 MHz
<b>Wavelength stability over 8 hours, temperature within <math>\pm 3^{\circ}\text{C}</math></b>	$\leq 1$ pm
<b>Wavelength drift over consecutive on/off cycles, temperature within <math>\pm 3^{\circ}\text{C}</math></b>	$\leq 1$ pm
<b>Coherence length</b>	$\geq 100$ m
<b>Side mode suppression ratio, +/- 0.5nm from the main peak</b>	$\geq 30$ dB
<b>Side mode suppression ratio, +/- 5nm from the main peak</b>	$\geq 60$ dB typ.
<b>Beam diameter, <math>1/e^2</math> level, 50mm from the beam aperture</b>	$0.7 \pm 0.1$ mm ( $\pm 0.15$ mm for 200 mW)
<b>Beam divergence, <math>1/e^2</math> level full beam, far field</b>	$\leq 1$ mrad
<b>Beam quality factor <math>M^2</math></b>	$\leq 1.1$
<b>Beam circularity, far field</b>	$\geq 90$ %
<b>Polarization state</b>	Linear, vertical, extinction ratio $\geq 20$ dB

## General Specifications

<b>Power consumption</b>	20 W max.
<b>Supply voltage</b>	5 V to 12 V
<b>Operating temperature</b>	10 °C to 50 °C
<b>Storage temperature and humidity</b>	0 °C to 60 °C
<b>Warm up time</b>	≤ 10 minutes
<b>Interfaces</b>	USB, RS-232, direct modulation inputs
<b>Dimensions (laser head)</b>	100x40x32 mm
<b>Weight (laser head)</b>	≤ 300 g
<b>Controler dimensions</b>	109x84x30 mm
<b>Compliance</b>	CE (incl. IEC 60825-1) and FDA 21 CFR 1040.10 / 1040.11
<b>Laser class</b>	3B
<b>Warranty</b>	24 months or 10000 hours, whichever occurs first

## Options

Single-mode fiber coupling
Multimode fiber coupling
Heat management
Electromechanical shutter
Flange
Optical Isolator
OEM version

*Oxxius has a policy of continuous product improvement. Specifications may change without notice.*