

# StaxxBeam

By Oxxius

<b>Gamme</b>	Single Frequency Lasers
<b>Title</b>	StaxxBeam 633 nm
<b>Reference</b>	LBX-633S
	<p>The StaxxBeam 633 is a compact and powerful 633 nm laser source that delivers a narrow linewidth emission. 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 Raman spectroscopy, interferometry, and dynamic light scattering.</p>
<b>Description</b>	<p>Key features</p> <ul style="list-style-type: none"><li>• Single frequency emission, <math>\leq</math> 100 MHz linewidth</li><li>• <math>\leq</math> 10pm wavelength stability</li><li>• <math>\geq</math> 1m coherence length</li><li>• <math>\pm 1.0\%</math> long-term power stability; low optical noise</li><li>• Integrated control electronics</li></ul> <p>Fully compatible with Oxxius' AOM option, or with MixxWave combiners, in combination with other laser lines.</p>



## Product Variations

Part Number	Puissance
LBX-633S-40-CIR-PPF	40mW

## Optical Characteristics

<b>Emission wavelength</b>	633 nm
<b>Tolerance</b>	(0.5nm tolerance)

<b>Control modes</b>	Automated current control
<b>Optical noise</b>	$\leq 0.2\%$ rms, 10Hz-20MHz bandwidth
<b>Spectral linewidth</b>	$\leq 100\text{MHz}$
<b>Wavelength stability over 8 hours, temperature within <math>\pm 3^\circ\text{C}</math></b>	$\leq 10\text{ pm}$
<b>Wavelength drift over consecutive on/off cycles, temperature within <math>\pm 3^\circ\text{C}</math></b>	$\leq 10\text{ pm}$
<b>Coherence length</b>	$\geq 1\text{ m}$
<b>Side mode suppression ratio, +/- 0.5nm from the main peak</b>	$\geq 40\text{ dB}$
<b>Beam diameter, 1/e<sup>2</sup> level, 50mm from the beam aperture</b>	$0.4 \pm 0.2\text{mm}$
<b>Beam divergence, 1/e<sup>2</sup> level full beam, far field</b>	$\leq 7.7\text{mrad}$
<b>Beam quality factor M<sup>2</sup></b>	$\leq 1.9$
<b>Beam circularity, far field</b>	$\geq 65\%$
<b>Polarization state</b>	Linear, vertical, extinction ratio $\geq 17\text{dB}$

## General Specifications

<b>Power consumption</b>	10W max.
<b>Supply voltage</b>	5V to 12V
<b>Operating temperature</b>	20°C to 35°C
<b>Storage temperature and humidity</b>	0°C to 60°C
<b>Warm up time</b>	$\leq 2$ minutes
<b>Interfaces</b>	USB, RS-232, direct modulation inputs
<b>Dimensions (laser head)</b>	100x40x40 mm
<b>Weight (laser head)</b>	$\leq 330\text{ g}$
<b>Controller 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 5000 hours, whichever occurs first

## Options

<b>Option 1</b>	Single-mode fiber coupling
<b>Option 2</b>	Multimode fiber coupling
<b>Option 3</b>	Heat management
<b>Option 4</b>	Electromechanical shutter
<b>Option 5</b>	Flange

<b>Option 6</b>	OEM version
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