

# StaxxBeam

By Oxxius

<b>Product range</b>	Single Frequency Lasers
<b>Product name</b>	StaxxBeam 830 nm (pigtailed)
<b>Reference</b>	LBX-830S pigtailed
<b>Description</b>	<p>The StaxxBeam 830 is a compact and powerful pigtailed 830 nm laser source that delivers an powerful, narrow linewidth emission over a multimode beam. 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. <b>Key features:</b></p> <ul style="list-style-type: none"> <li>• Single frequency emission, <math>\leq 100</math> MHz linewidth</li> <li>• <math>\leq 10</math> pm wavelength stability</li> <li>• <math>\pm 1.0</math> % long-term power stability; low optical noise</li> <li>• Integrated control electronics Fully compatible with MixxWave combiners, in combination with other laser lines.</li> </ul>

## Product Variations

Part Number	Power
LBX-830S-500-MM-PPA	500 mW

## Optical Characteristics

<b>Emission wavelength</b>	830 nm
<b>Tolerance</b>	0.5 nm
<b>Power stability over 8 hours, temperature within <math>\pm 3^{\circ}\text{C}</math></b>	$\pm 1\%$
<b>Control modes</b>	Automated current control
<b>Optical noise</b>	$\leq 0.2\%$ rms, 10 Hz-20 MHz bandwidth
<b>Spectral linewidth</b>	$\leq 70$ pm
<b>Wavelength stability over 8 hours, temperature within <math>\pm 3^{\circ}\text{C}</math></b>	$\leq 10$ pm
<b>Wavelength drift over consecutive on/off cycles, temperature within <math>\pm 3^{\circ}\text{C}</math></b>	$\leq 10$ pm
<b>Coherence length</b>	N/A
<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>	$\geq 40$ dB
<b>Beam diameter, <math>1/e^2</math> level, 50mm from the beam aperture</b>	$\varnothing 105$ $\mu\text{m}$ Core, 0.22 NA Multimode Fiber, 1 m, APC.
<b>Beam divergence, <math>1/e^2</math> level full beam, far field</b>	N/A
<b>Beam quality factor <math>M^2</math></b>	N/A
<b>Beam circularity, far field</b>	$\geq 90\%$
<b>Polarization state</b>	N/A

## General Specifications

<b>Power consumption</b>	10 W max.
<b>Supply voltage</b>	5 V to 12 V
<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>	≤ 2 minutes
<b>Interfaces</b>	USB, RS-232, direct modulation inputs
<b>Dimensions (laser head)</b>	100x40x40 mm
<b>Weight (laser head)</b>	≤ 330 g
<b>Controler dimensions</b>	106x126x56 mm
<b>Compliance</b>	CE (incl. IEC 60825-1) and FDA 21 CFR 1040.10 / 1040.11
<b>Laser class</b>	3B, 4
<b>Warranty</b>	24 months or 5000 hours, whichever occurs first

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