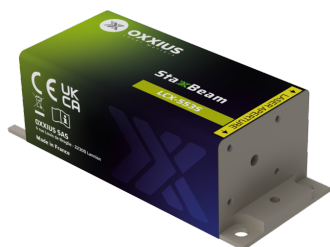


# StaxxBeam

By Oxxius

|                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Product range</b> | Single Frequency Lasers                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Product name</b>  | StaxxBeam 553 nm (adjustable power)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Reference</b>     | L1C-553S (adjustable 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.</p> <p><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>• 0%-100% user-adjustable power</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</li> </ul> <p>Fully compatible with Oxxius' AOM option, or with MixxWave combiners, in combination with other laser lines.</p> |



## Product Variations

| Part Number          | Power  |
|----------------------|--------|
| L1C-553S-50-CSB-MPA  | 50 mW  |
| L1C-553S-100-CSB-MPA | 100 mW |
| L1C-553S-200-CSB-MPA | 200 mW |

## Optical Characteristics

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

## General Specifications

|                                         |                                                         |
|-----------------------------------------|---------------------------------------------------------|
| <b>Power consumption</b>                | 20 W max.                                               |
| <b>Supply voltage</b>                   | 7 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>          | 120x40x32 mm                                            |
| <b>Weight (laser head)</b>              | ≤ 1150 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            |
| High rate modulation       |
| Optical Isolator           |
| OEM version                |

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