Novanta develops photonics solutions specializing in cutting-edge components and sub-systems for laser-based diagnostic, analytical, micromachining and fine material processing applications. Powerful lasers, coupled with advanced beam steering and intelligent sub-systems incorporating software and controls, deliver extreme precision and performance, tailored to our customers' demanding applications.

THE SCIENTIFIC CHOICE

With a long heritage in developing lasers for mission-critical industrial applications the ventus follows a design philosophy that delivers very high performance and reliability over the longest lifetimes. A small form factor and high wall plug electrical efficiency, delivering distinct benefits in thermal management. The ventus family offers a range of wavelengths and powers for a multitude of applications.

The ventus laser available in a range of wavelengths and powers

THE SCIENTIFIC CHOICE

Repeatable, high-power performance delivering consistent results

- Exceptional power stability as power remains stable throughout gem's lifetime
- Tight focus and efficient fibre coupling for repeatable, consistent results
- High power on sample to optimise use in a diverse array of applications

Cost effective, customisable, flexible platform

- Efficient thermal management reducing cooling requirements and costs
- Available fibre coupling solutions at 70% efficiency above 500 mW, offering uniformed power at sample and increased productivity
- Customisable features delivering solution flexibility to OEM integrator

Ease of integration

- Compact size with high power; easy to retrofit into OEM platforms
- Simple plug and play solution increasing productivity and reducing downtime
### VENTUS CONTINUOUS WAVE LASER SERIES

<table>
<thead>
<tr>
<th>Specification*</th>
<th>ventus 473</th>
<th>ventus 532</th>
<th>ventus solo</th>
<th>ventus 561</th>
<th>ventus 660</th>
<th>ventus 671</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wavelength</td>
<td>473 nm</td>
<td>532 nm</td>
<td>532 nm</td>
<td>561 nm</td>
<td>660 nm</td>
<td>671 nm</td>
</tr>
<tr>
<td>Power</td>
<td>100-350 mW</td>
<td>100 - 1500 mW</td>
<td>250 - 750 mW</td>
<td>100 - 750 mW</td>
<td>100 - 750 mW</td>
<td>100 - 500 mW</td>
</tr>
<tr>
<td>Beam Diameter*</td>
<td>1.5 ± 0.1 mm</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Spatial Mode</td>
<td>TEM&lt;sub&gt;00&lt;/sub&gt;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ellipticity</td>
<td>&lt;1:1.2</td>
<td>&lt;1:1.15</td>
<td>&lt;1:1.2</td>
<td>&lt;1:1.2</td>
<td>&lt;1:1.2</td>
<td>&lt;1:1.2</td>
</tr>
<tr>
<td>Bandwidth</td>
<td>40 GHz</td>
<td>30 GHz</td>
<td>10 GHz</td>
<td>40 GHz</td>
<td>30 GHz</td>
<td>30 GHz</td>
</tr>
<tr>
<td>Divergence</td>
<td>≤0.7 mrad</td>
<td>≤0.6 mrad</td>
<td>≤0.6 mrad</td>
<td>&lt;1 mrad</td>
<td>&lt;0.8 mrad</td>
<td>&lt;0.8 mrad</td>
</tr>
<tr>
<td>M-Squared</td>
<td>&lt;1.2</td>
<td>&lt;1.1</td>
<td>&lt;1.1</td>
<td>&lt;1.2</td>
<td>&lt;1.2</td>
<td>&lt;1.2</td>
</tr>
<tr>
<td>Power Stability (RMS)&lt;sup&gt;2&lt;/sup&gt;</td>
<td>&lt;0.6%</td>
<td>&lt;0.4%</td>
<td>&lt;0.4%</td>
<td>&lt;1.0%</td>
<td>&lt;0.5%</td>
<td>&lt;1.0%</td>
</tr>
<tr>
<td>Noise (RMS)&lt;sup&gt;3&lt;/sup&gt;</td>
<td>≤0.7%</td>
<td>&lt;0.15%</td>
<td>&lt;1%</td>
<td>&lt;1.5%</td>
<td>&lt;0.5%</td>
<td>&lt;0.6%</td>
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<tr>
<td>Noise Bandwidth</td>
<td>10 Hz - 50 kHz</td>
<td>10 Hz - 100 MHz</td>
<td>10 Hz - 100 MHz</td>
<td>10 Hz - 50 kHz</td>
<td>10 Hz - 50 kHz</td>
<td>10 Hz - 50 kHz</td>
</tr>
<tr>
<td>Beam Pointing Stability</td>
<td>&lt;10 μrad/°C</td>
<td></td>
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<tr>
<td>Polarization Ratio</td>
<td>&gt;100:1</td>
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<tr>
<td>Polarization Direction</td>
<td>Horizontal</td>
<td></td>
<td></td>
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<tr>
<td>Coherence Length</td>
<td>-7.5 mm</td>
<td>-1 cm</td>
<td>-3 cm</td>
<td>-7.5 mm</td>
<td>-1 cm</td>
<td>-1 cm</td>
</tr>
<tr>
<td>Beam Angle&lt;sup&gt;5&lt;/sup&gt;</td>
<td>&lt;1 mrad</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>15 - 40 °C</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

* Laser Quantum operates a continuous improvement programme which can result in specifications being improved without notice.

1 Beam diameter defined as the average of major and minor 1/e beam size measured at 25 cm from exit port, at specified power.

2 Test duration >100 hrs at constant temperature.

3ventus 532 50 mW to 500 mW ≤0.4%.

4 Vertical polarization is available upon request.

5 Tolerance relative to head orientation.
VENTUS CONTINUOUS WAVE LASER SERIES

DIMENSIONS (MM)

FLEXIBLE DESIGN

Customizable options available for your laser to optimize your application.

- **Fiber coupling**: Available with multi or single mode fiber delivery options which allows the beam to be delivered to the point of need.
- **Intelligent control unit**: Allows easy setting and monitoring of the laser parameters. Incorporating PowerLoQ™ technology, the gem lasers show extreme power stability over long periods of use.
- **1200 g drop-test**: (Fig. 2) All gem lasers undergo a drop test to check that all components are correctly fitted prior to its extended 300 hour test period. This rigorous testing regime ensures long operational lifetimes.
- **RemoteApp™**: Works with software that allows the laser to be controlled locally, over the internet and connected directly to our support team for monitoring laser performance, diagnosing opportunities and carrying out laser optimization.

ADDITIONAL INFORMATION

- Weight: 0.75 kg
- Umbilical length: 1.5 m
- Cooling options available
- System can be modulated
- Vertical polarization is available on request
- Fiber coupling available
- LabView drivers available
- 2 years unlimited hours warranty for scientific users

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