Green Scan Laser Photocoagulator GYC-500 Vixi
Green Laser Photocoagulator GYC-500

THE ART OF EYE CARE
The Small, Incredibly Versatile Green Laser Photocoagulator

The GYC-500 Vixi / GYC-500 is a solid state green laser that achieves stable treatment outcomes for multiple applications including retinal photocoagulation, trabeculoplasty and iridotomy.

The user-friendly features include a compact and lightweight design, and a wide range of delivery options allowing versatility for in-office use and the surgical suite.
User Friendly

---

**Lightweight and Compact Design**

This multifunction laser is housed in a small console. The space-saving design allows portability to virtually any room. The GYC-500 can be integrated into the NIDEK CV-30000, ophthalmic surgical system. This integration maintains sterile conditions and there is seamless installation and connection.

The endophoto probes can be connected to the GYC-500 simplifying setup and treatments.

---

**5.7-inch Color LCD with Touchscreen Control Box**

An intuitive graphic user interface and easy-to-read touch screen color LCD allows quick and easy setup and verification of the scan pattern and treatment parameters.

- **Pop-up Window**
  
The pop-up window appears once the displayed value, such as POWER, TIME, or INT is selected. The surgeon can easily make changes to these laser values.

- **Stored Photocoagulation Data**
  
  For flexibility in treating different types of clinical cases, 10 sets of photocoagulation data (power output, emission time, interval time, scan pattern and spacing) can be stored. Each set can be quickly retrieved with one-touch operation.

- **Registration of Contact Lens Magnification**
  
  Up to 5 contact lens magnifications can be registered. Confirmation of actual spot size on the retinal surface is easily performed by selecting the registered contact lens.

- **Treatment Summary**
  
  Photocoagulation data can be displayed in one screen for review and output in XML format for saving the treatment.

---

**Keycard**

The SD card is used as a key to start the unit. It enables software upgrades and saves a summary of the treatments.

---

**3D Mouse (optional)**

The 3D mouse allows intuitive operation for changing parameters. Up to 10 parameters can be preset with the 3D mouse.
Stable and Reliable Green Laser

The GYC-500 Vixi / GYC-500 ensures stable laser output by using a solid state laser. Two cooling fans in the console maintain the correct internal temperature. The maximum room temperature during use is 35ºC (95ºF) which is within the range to treat retinopathy of prematurity cases which requires ambient room to be approximately 30ºC (86ºF).

![Wave profile measured with oscilloscope](image)

- Emission time 0.02 second
- Power 500 mV

SOLIC (Safety Optics with Low Impact on Cornea)

The SOLIC optical design is incorporated into all delivery units, ensuring low energy density on the cornea and lens, even for large spot sizes.

Optimal Design of Optical Axis

The optical axes for observation and the laser are coaxially aligned. Coaxial alignment results in precise laser delivery, increasing safety and maximizing treatment effect.

Protective Filter

A fixed protective filter for the GYC-500 reduces the risks of backscatter laser irradiation maximizing surgeon safety during treatment. A special coating on the filter ensures that the surgeon’s view of the fundus is completely clear during examination and photocoagulation.
Scan Pattern Options

Incorporating Vixi, scan delivery units, into the GYC-500 enables laser treatments with various scan patterns. The GYC-500 Vixi enhances treatment efficiency and reduces patient chair time.

### Multiple Scan Patterns

The GYC-500 Vixi has 22 preprogrammed scan patterns to allow treatment of varying retinal pathologies.

<table>
<thead>
<tr>
<th>Square</th>
<th>Equal space</th>
<th>Rectangle</th>
</tr>
</thead>
<tbody>
<tr>
<td>(2x2, 3x3, 4x4, 5x5)</td>
<td>(2v2, 3v3, 4v4, 5v5)</td>
<td></td>
</tr>
</tbody>
</table>

Simulated scan patterns of retinal laser photocoagulation.

<table>
<thead>
<tr>
<th>Triangle</th>
<th>Circle</th>
<th>Arc (3/4 circle)</th>
<th>Arc (1/2 circle)</th>
<th>Arc (1/4 circle)</th>
<th>Curve</th>
<th>Line</th>
<th>Single</th>
</tr>
</thead>
</table>

*1 For equal space patterns, No. v No. indicates the number of spots in horizontal and vertical directions.

*2 The arcade grid pattern is used for treatment of the periphery of macula in one-sixth units. The inner diameter is fixed and spot sizes range from 100 to 200 µm.

### Auto Forward

Once photocoagulation is completed in one region, the GYC-500 Vixi allows automated advancement to the next region for delivery of the next scan pattern during photocoagulation. This feature allows the surgeon to concentrate on focus adjustment.

The repeat mode with the auto forward function enables consecutive regions to undergo photocoagulation on a selected path without repeatedly pressing the foot switch.

*The auto forward function is available for the equal space (2v2, 3v3, 4v4) and the square (2x2, 3x3, 4x4) patterns. The number of times auto-forwarding can occur differs depending on the scan pattern, spot size, and spacing.
In addition to conventional single delivery units, the scan delivery units are added to the wide range of green laser delivery systems. Both the scan and single delivery units include attachable models* for the NIDEK SL-2000, 1800, and 1600; the ZEISS SL130 and 30SL/M; and the HAAG 900BQ, all of which provide the existing slit lamps with a new stage for scan and single laser treatment. *Prior confirmation of attachment to an existing slit lamp model is required.

**Wide Range of Selectable Delivery Units**

In addition to conventional single delivery units, the scan delivery units are added to the wide range of green laser delivery systems. Both the scan and single delivery units include attachable models* for the NIDEK SL-2000, 1800, and 1600; the ZEISS SL130 and 30SL/M; and the HAAG 900BQ, all of which provide the existing slit lamps with a new stage for scan and single laser treatment. *Prior confirmation of attachment to an existing slit lamp model is required.

---

**Scan Delivery Units (GYC-500 Vixi)**

- **Scan slit lamp delivery unit (NIDEK SL-2000)**
- **Scan slit lamp delivery unit (NIDEK SL-1800)**
- **Scan attachable delivery unit (NIDEK SL-2000/1800/1600)**
- **Scan attachable delivery unit (ZEISS SL-130, 30SL/M)**
- **Scan attachable delivery unit (HAAG 900BQ)**

**Single Delivery Units (GYC-500)**

- **Slit lamp delivery unit (NIDEK SL-2000)**
- **Slit lamp delivery unit (NIDEK SL-1800)**
- **Attachable delivery unit (NIDEK SL-2000/1800/1600)**
- **Attachable delivery unit (ZEISS SL-130, 30SL/M)**
- **Attachable delivery unit (HAAG 900BQ)**
- **BIO delivery unit (Keeler All Pupil II)**
- **BIO delivery unit (HEINE OMEGA 500)**
- **YAG laser combination delivery unit (NIDEK YC-1800)**
- **Endophotocoagulation delivery unit (ZEISS, LEICA)**

---

**Dual Delivery Port**

The dual delivery unit connectors enable simultaneous connection with two delivery units, such as slit lamp delivery and BIO delivery units. They eliminate the inconvenience of connecting and disconnecting units and provide easy cable management.

*The dual delivery port is available for the dual delivery model.

**Automated Recognition of Connected Delivery**

The GYC-500 Vixi / GYC-500 automatically recognizes the types of connected delivery unit and changes the setting according to the delivery unit. This can be visually confirmed on the control box.
### Main Body Specifications

<table>
<thead>
<tr>
<th>Treatment laser</th>
<th>Diode pumped solid state laser</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Wavelength</strong></td>
<td>532 nm</td>
</tr>
<tr>
<td><strong>Output power</strong></td>
<td>50 to 1700 mW (Except for scan delivery)</td>
</tr>
<tr>
<td></td>
<td>50 to 1500 mW (Scan delivery)</td>
</tr>
<tr>
<td><strong>Output type</strong></td>
<td>Continuous wave, Pulse 0.01 to 0.2 second</td>
</tr>
<tr>
<td><strong>Exposure time</strong></td>
<td>0.01 to 3.00 seconds</td>
</tr>
<tr>
<td><strong>Interval time</strong></td>
<td>0.05 to 1.00 second</td>
</tr>
<tr>
<td><strong>Aiming laser</strong></td>
<td>Red diode, 635 nm, max. 0.2 to 0.4 mW</td>
</tr>
<tr>
<td><strong>Power supply</strong></td>
<td>AC 100 to 240 V, 50 / 60 Hz</td>
</tr>
<tr>
<td><strong>Power consumption</strong></td>
<td>250 VA</td>
</tr>
<tr>
<td><strong>Dimensions / Mass</strong></td>
<td>237 (W) x 318 (D) x 90 (H) mm / 6.2 kg*1</td>
</tr>
<tr>
<td></td>
<td>9.3 (W) x 12.5 (D) x 3.5 (H)* / 13.7 lbs.*1</td>
</tr>
<tr>
<td><strong>Optional accessories</strong></td>
<td>Power foot switch, Dual unit, Expansion box, CB top plate attachment unit, Safety goggles, 3D mouse, Barcode scanner, Magnetic card reader</td>
</tr>
</tbody>
</table>

*1 276 (W) x 318 (D) x 90 (H) mm / 7.15 kg, 10.9 (W) x 12.5 (D) x 3.5 (H)* / 15.8 lbs. with the expansion box, which is an optional accessory to connect the scan delivery unit to the main body.

### Scan / Single Delivery Unit Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Scan delivery unit (GYC-500 Vixi)</th>
<th>Single delivery unit (GYC-500)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Spot size</strong></td>
<td>100 to 500 µm (scan mode &amp; auto manipulation mode)</td>
<td>50 to 1000 µm (slit lamp &amp; attachable deliveries)</td>
</tr>
<tr>
<td><strong>Emission pattern</strong></td>
<td>Single</td>
<td>Single</td>
</tr>
<tr>
<td></td>
<td>Square (2x2, 3x3, 4x4, 5x5), Equal space (2v2, 3v3, 4v4, 5v5)*2, Rectangle, Triple arc, Triple curve, Arcade grid, Triangle, Circle, Arc (3/4 circle, 2/4 circle, 1/4 circle), Curve, Line</td>
<td></td>
</tr>
<tr>
<td><strong>Type</strong></td>
<td>Scan slit lamp delivery unit (NIDEK SL-2000 / 1800)</td>
<td>Scan detachable delivery unit (NIDEK SL-2000 / 1800 / 1600, Zeiss SL130, &amp; 30SL/M, HAAG 9008Q)</td>
</tr>
<tr>
<td><strong>Protective filter</strong></td>
<td>Electrically-powered</td>
<td>Fixed</td>
</tr>
<tr>
<td><strong>Dimensions / Mass</strong></td>
<td>760 (W) x 450 (D) x 1300 to 1500 (H) mm / approximately 45 kg*3</td>
<td>760 (W) x 450 (D) x 1290 to 1490 (H) mm / approximately 45kg*3</td>
</tr>
<tr>
<td></td>
<td>29.9 (W) x 17.7 (D) x 51.2 to 59.1 (H) / 99.2 lbs.*3</td>
<td>29.9 (W) x 17.7 (D) x 50.8 to 58.7 (H) / 99.2 lbs.*3</td>
</tr>
</tbody>
</table>

*2 For equal space patterns, No. x No. indicates the number of spots in horizontal and vertical directions.

*3 The dimensions and mass differ depending on delivery types.

---

**Eye & Health Care**

**NIDEK CO., LTD.**

---

**HEAD OFFICE**

(Internal Div.)

34-14 Maehama, Hiroishi
Gamagori, Aichi 443-0038,
JAPAN

TEL: +81-533-67-8895
URL: http://www.nidek.com

**Tokyo Office**

(Internal Div.)

3F Sumitomo Fudosan Hongo Bldg., 3-22-5 Hongo, Bunkyo-ku,
Tokyo 113-0033, JAPAN

TEL: +81-3-5844-2641
URL: http://www.nidek.com

**NIDEK INC.**

4751 Westinghouse Drive,
Fremont, CA 94539, U.S.A.

TEL: +1-510-226-7700
+1-800-223-9044

URL: http://usa.nidek.com

**NIDEK S.A.**

Europe, 13 rue Auguste Perret,
94042 Créteil, FRANCE

TEL: +33-1-49 80 97 97
URL: http://www.nidek.fr

**NIDEK TECHNOLOGIES S.R.L.**

Via dell’Artepianato, 6/A
35020 Abbigliamento (Padova), ITALY

TEL: +39 049 6252000 / 6826399
URL: http://www.nidektechnologies.it

**NIDEK (SHANGHAI) CO., LTD.**

Rm3205, Shanghai Multi Media Park, No.1027 Chang Ning Rd,
Chang Ning District, Shanghai, CHINA 200050,
TEL: +86 021-5212-7942
URL: http://www.nidek-china.cn

**NIDEK SINGAPORE PTE. LTD.**

51 Changi Business Park Central 2, #06-14 The Signature 486066,
SINGAPORE

TEL: +65 6588 0389

**Manufacturer**

GVC-500 Vixi / GYC-500_B01E003