

Yellow Scan Laser Photocoagulator **YLC-500 Vixi**  
Yellow Laser Photocoagulator **YLC-500**

US EDITION



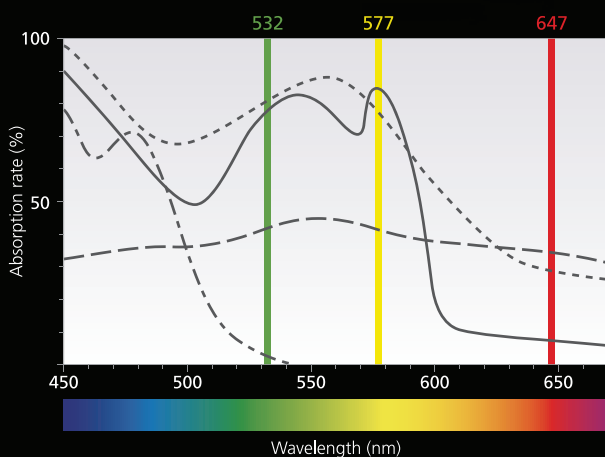
THE ART OF EYE CARE



## A 577 nm Yellow Laser with Multiple Scan Patterns

The YLC-500 Vixi / YLC-500 is a yellow laser using the innovative OPSL (optically pumped semiconductor laser) method to achieve stable and reliable laser delivery for optimal treatment outcomes.

### Attributes of the 577 nm Yellow Laser

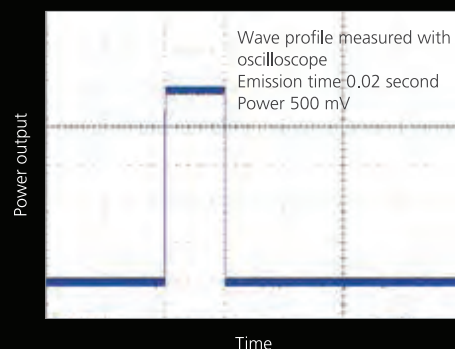


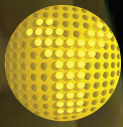
Reference: Folia Ophthalmol. Jpn. 40(5)1128-1133, 1989

- Pigment epithelium
- - - Reduced hemoglobin
- Oxygenated hemoglobin
- - - Xanthophyll
- 532 nm (MC-500, GYC-500)
- 577 nm (MC-500, YLC-500)
- 647 nm (MC-500)

The 577 nm yellow laser is minimally absorbed by xanthophyll and is well absorbed by oxygenated hemoglobin compared to 532 nm laser making it the wavelength of choice for lesions close to the macula.

A momentary increase followed by a plateau and an immediate decrease enables rapid and high-power laser emission for the scan patterns.



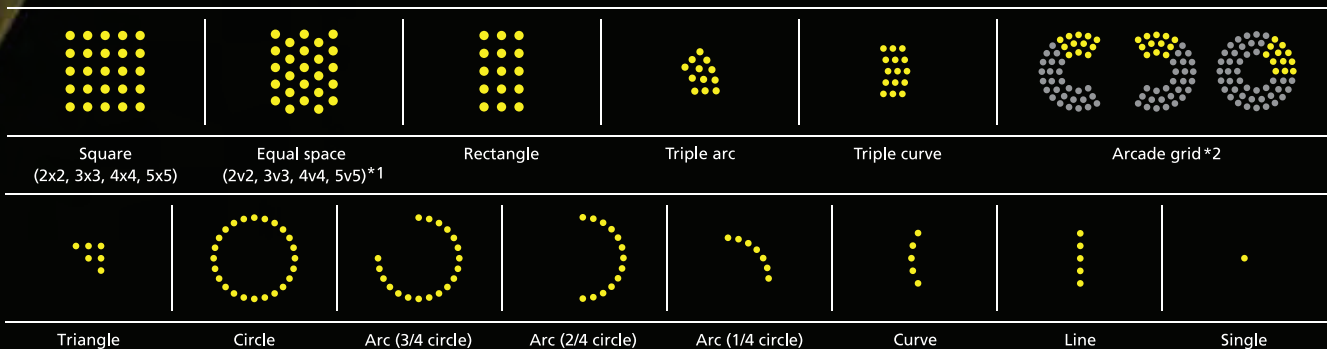


# YLC-500 Vixi / YLC-500

The YLC-500 Vixi yellow scan laser photocoagulator, enables laser treatments with various scan patterns by incorporating Vixi, scan delivery units, into the YLC-500.

## Multiple Scan Patterns

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



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

\*2 Arcade grid pattern is used for treatment of the macula periphery in quadrants. The inner diameter is fixed and spot sizes range from 100 to 200 μm

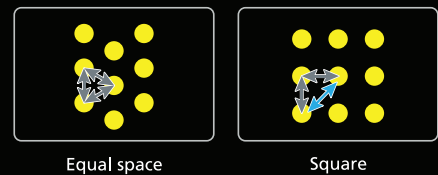
## Equal Space Between Spots in All Directions

Equal space (2v2, 3v3, 4v4, 5v5)

The space between spots is equal in all directions.



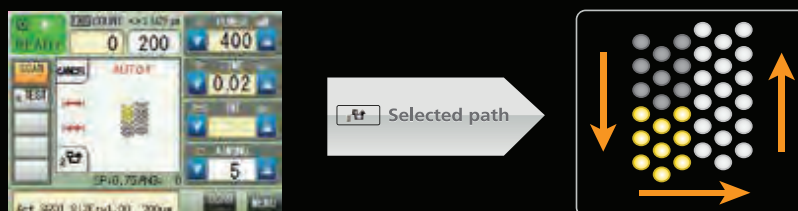
The equal space pattern maintains space between spots allowing for denser photocoagulation than the square pattern.



The spacing function allows surgeon to vary the spaces between spots.

## Auto Forward

Once photocoagulation is completed in one region, the auto forward function automatically positions the scan pattern to the next region of treatment, allowing the surgeon to concentrate on adjusting focus.



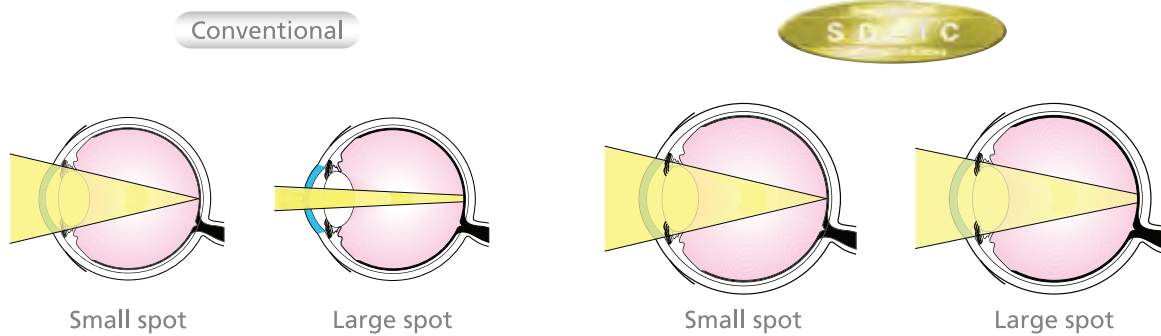
The repeat mode with the auto forward function enables consecutive regions to undergo photocoagulation on a pre-programmed path by continuously depressing the foot switch.

\*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 based on the scan pattern, spot size, and spacing.

# Superior Performance

## — 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.



## — Continuously Variable Spot Size

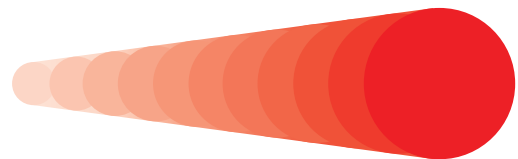
The scan spot size is continuously variable.

Scan delivery Scan mode : 100 to 500  $\mu\text{m}$

Single mode: 50 to 100  $\mu\text{m}$

Single delivery : 50 to 990  $\mu\text{m}$

The continuous variability allows the surgeon to easily compensate for the spot size change due to the use of a laser contact lens.



## — Protective Filter

A protective filter reduces the risks of backscatter laser irradiation, maximizing surgeon safety during treatment. A special coating on the filter ensures a clear view of the fundus during examination and photocoagulation.



Without protective filter

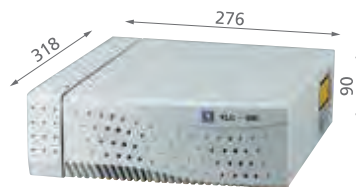
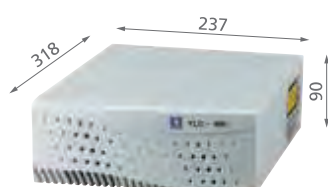


With protective filter

## — Lightweight and Compact Design

The space saving design allows the main body to be stored under the NIDEK slit lamp table for a laser photocoagulator.

The lightweight and compact design allows easy portability to virtually any room. In the operating room, endophoto probes can be connected to the YLC-500 simplifying setup and treatments.



The optional expansion box allows connection of the scan delivery unit to main body.



# Operational Efficiency

## LCD Brightness Adjustment

When the status is changed from standby to ready the LCD brightness decreases to minimize interference with surgeon visibility during treatment.



\*An optional control box top plate attachment unit is used in this photo.

## Intuitive and Functional User Console

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



YLC-500 Vixi LCD screen

### Pop-up Window

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



YLC-500 LCD screen

### 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.



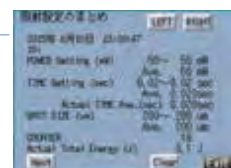
### Registration of Contact Lens Magnification

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.



\*Displayed values can be transferred from the expansion box to PC using LAN.

## Keycard

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



## 3-D Mouse (optional)

The 3-D mouse allows intuitive operation for changing parameters. Up to 10 parameters can be preset with the 3-D mouse.



# Wide Range of Selectable Delivery Units

## Scan Delivery Units

YLC-500 Vixi



Scan slit lamp delivery unit  
(NIDEK SL-1800)



Scan attachable delivery unit  
(NIDEK SL-1800)



Scan attachable delivery unit  
(ZEISS SL130)



Scan attachable delivery unit  
(HAAG BQ900)

## Single Delivery Units

YLC-500



Slit lamp delivery unit  
(NIDEK SL-1800)



Attachable delivery unit  
(NIDEK SL-1800/1600)



Attachable delivery unit  
(ZEISS SL130)



BIO delivery unit  
(HEINE OMEGA 500)



### — 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 Unit


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



# Lineup of Laser Photocoagulator

— Selectable models depending on the required wavelength and delivery unit


 MC-500 Vixi  
 MC-500


 YLC-500 Vixi  
 YLC-500


 GYC-500 Vixi  
 GYC-500



Product / Model name: Multicolor Laser Photocoagulator MC-500



Product / Model name: Yellow Laser Photocoagulator YLC-500



Product / Model name: Green Laser Photocoagulator GYC-500

— Case of Panretinal Photocoagulation for Severe Non-Proliferative Diabetic Retinopathy

**Total surgery time**  
24 minutes

**Laser contact lens**  
Mainster PRP 165  
(1.96x)

**Wavelength (color)**  
577 nm (yellow)

**Scan pattern**  
Square  
(2x2, 3x3, 4x4)

**Spot size**  
200 μm

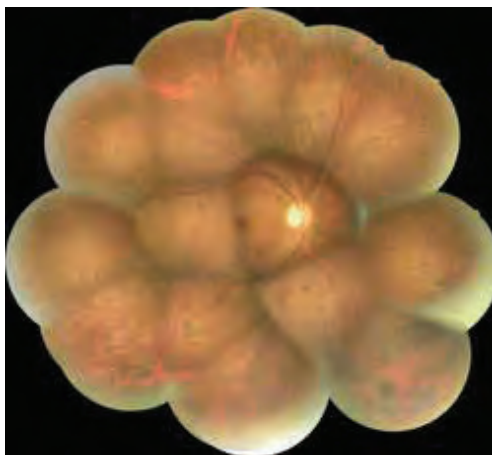
**Spacing**  
0.5, 0.75

**Power output**  
300 - 450 mW

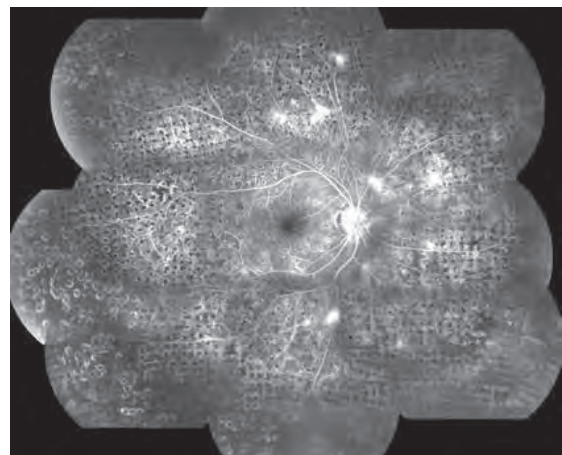
**Emission time**  
0.02 second

**Shots**  
4,772

**Total energy**  
42.4J



Color fundus image after photocoagulation



FA image after photocoagulation

Photo courtesy of Prof. Murata, Shinshu University

The case above is an excerpt from the case report of the multicolor laser photocoagulation with the MC-500 Vixi.

## Main Body Specifications

Treatment laser	Optically-pumped semiconductor laser
Wavelength	577 nm
Output power	50 to 1500 mW
Output type	Continuous wave
Exposure time	0.01 to 3.00 seconds 0.01 to 0.05 (Scan delivery mode)
Interval time	0.05 to 1.0 second
Aiming laser	Red diode, 635 nm, max. 0.3 ± 0.1 mW
Power supply	AC 100 to 240 V, 50 / 60 Hz
Power consumption	250 VA
Dimensions / Mass	237 (W) x 318 (D) x 90 (H) mm / 5.6 kg*1 9.3 (W) x 12.5 (D) x 3.5 (H)" / 12.3 lbs.*1
Optional accessories	Expansion box, CB top plate attachment unit, power foot switch, 3-D mouse, laser goggles, USB barcode reader, magnetic card reader

\*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

Model	Scan delivery unit (YLC-500 Vixi)	Single delivery unit (YLC-500)
Spot size	100 to 500 µm (scan mode & auto manipulation mode) 50 to 500 µm (single mode)	50 to 990 µm (slit lamp & attachable deliveries)
Emission pattern	Single, Square (2x2, 3x3, 4x4, 5x5), Line, Triangle, Equal Space (2v2, 3v3, 4v4, 5v5) *2, Curve, Circle, Arc (3/4 circle, 2/4 circle, 1/4 circle), Rectangle, Triple Arc, Triple Curve, Arcade Grid	Single
Type	Scan slit lamp delivery unit (NIDEK SL-1800) Scan attachable delivery unit (NIDEK SL-1800, ZEISS SL130, HAAG BQ900)	Slit lamp delivery unit (NIDEK SL-1800) Attachable delivery unit (NIDEK SL-1800/1600, ZEISS SL130) BIO delivery unit (HEINE OMEGA 500)
Dimensions / Mass	742(W) x 463(D) x 1300 to 1500(H) mm / 45 kg*3 29.2(W) x 18.2(D) x 51.2 to 59.1(H)" / 99.2 lbs.*3 (NIDEK SL-1800 scan slit lamp delivery with table)	742(W) x 463(D) x 1300 to 1500(H) mm / approximately 45 kg*3 29.2(W) x 18.2(D) x 51.2 to 59.1(H)" / 99.2 lbs.*3 (NIDEK SL-1800 slit lamp delivery with table)

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

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

**DANGER**

LASER RADIATION – AVOID EYE OR SKIN EXPOSURE TO DIRECT OR SCATTERED RADIATION

λ: 577nm, CW, Pulse 0.01 s-0.2s, 3W max.  
λ: 635nm, CW, <1mW max.

CLASS IV LASER PRODUCT

Product / Model name: Yellow Laser Photocoagulator YLC-500

Caution: U.S. Federal Law restricts this device to sale, distribution, and use by or on the order of a physician or other licensed eye care practitioner.

Specifications may vary depending on circumstances in each country.

Specifications and design are subject to change without notice.

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