NIDEK

Multicolor Scan Laser Photocoagulator MC-500 Vixi

Multicolor Laser Photocoagulator MC-500

The Art of Eye Care

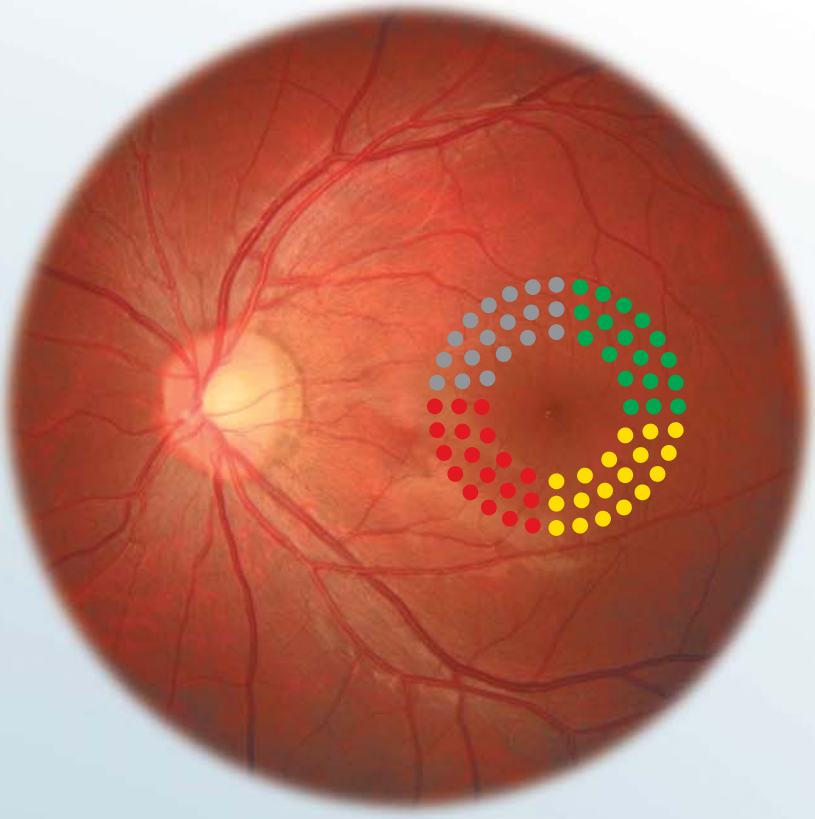
MC-500 Vixi / MC-500

The Ultimate Integration of Multicolor with Scan Laser

Introducing the next generation of the multicolor laser photocoagulator

The MC-500 incorporates scan delivery systems and integrates the multicolor laser photocoagulator into one comprehensive platform, the MC-500 Vixi.

The MC-500 Vixi allows rapid and optimal power laser emission for laser photocoagulation with selection of various colors and scan patterns.



Multicolor on Modular Architecture

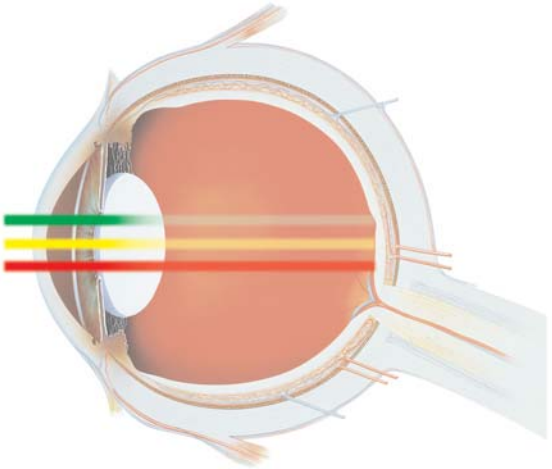
Selectable Laser Color Configuration

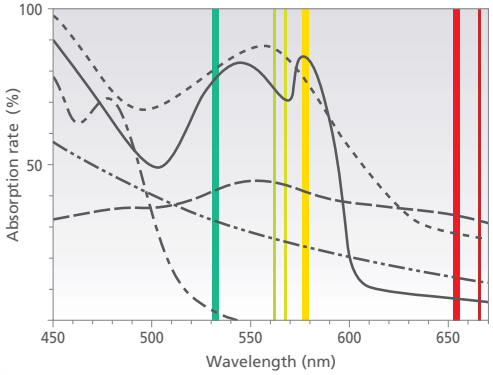
The MC-500 Vixi / MC-500, with its user friendly design, allows the selection (patent pending) of one, two, or three wavelengths, among green, yellow, and red. It enables the freedom to select the necessary color or combination of colors to increase efficiency of treatment.

	Green (532 nm)	Yellow (577 nm)	Red (647 nm)
Three-color selection	●	●	●
Two-color selection	●		●
	●	●	
		●	●
One-color selection	●		
		●	
			●

Multicolor Laser for Multiple Applications

The MC-500 Vixi / MC-500 enables efficient photocoagulation even through opaque media. In cases of cataract, better penetration is achieved with the yellow wavelength (577 nm) compared to green. In eyes with retinal hemorrhage, better penetration is achieved with the red (647 nm) wavelength.





532 nm

The 532 nm (green) is the most common wavelength for treating retinal pathology with pan retinal photocoagulation.

577 nm

The 577 nm (yellow) laser is minimally absorbed by xanthophyll and is well absorbed by oxygenated hemoglobin compared to 561 nm and 568 nm lasers making it the wavelength of choice for lesions close to the macula. This wavelength has plentiful results achieved with the Dye lasers.

647 nm

The 647 nm (red) wavelength has been historically used in Krypton lasers. This wavelength is used for photocoagulation of deep choroidal pathology.

- Reduced hemoglobin
- Oxygenated hemoglobin
- Xanthophyll
- Pigment epithelium
- Lens scattering
- 532 nm (MC-500, 300)
- 561 nm (MC-300)
- 568 nm (MC-7000)
- 577 nm (MC-500)
- 647 nm (MC-500, 7000)
- 659 nm (MC-300)

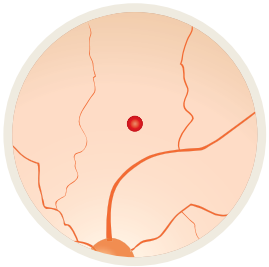
Multi-functional Scan Deliveries

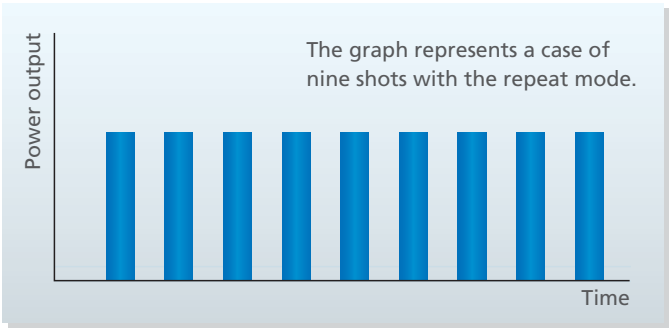
Triple Emission Mode

In addition to the conventional single mode, the MC-500 Vixi provides auto manipulation and scan modes, which allows mode selection appropriate for a specific pathology.

Single Mode

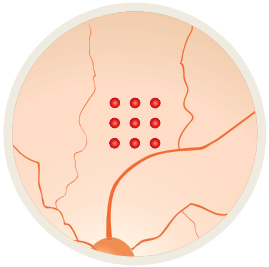
The single mode is used in conventional laser emission.

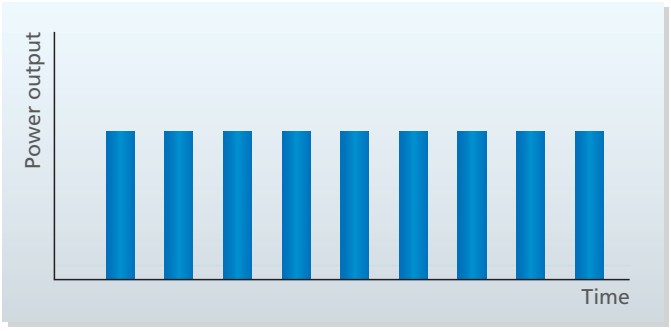




Auto Manipulation Mode

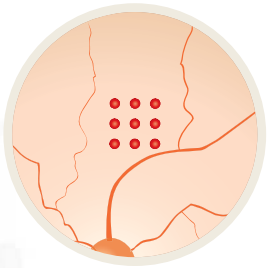
The auto manipulation mode is for repeated laser emission with variable interval times and conventional coagulation setting in a selectable scan pattern. The auto manipulation mode allows the surgeon to continue laser emission while confirming spot placement.

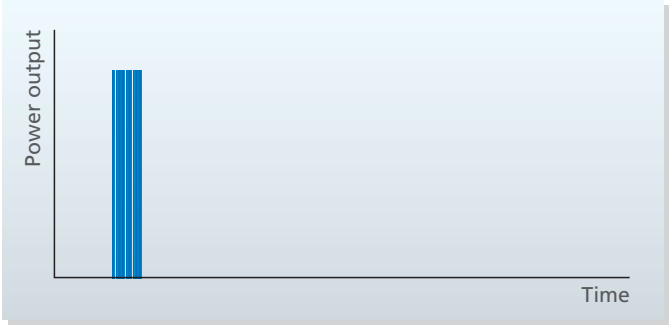




Scan Mode

The scan mode is for repeated laser emission with a fixed interval time, high power, and instantaneous speed.

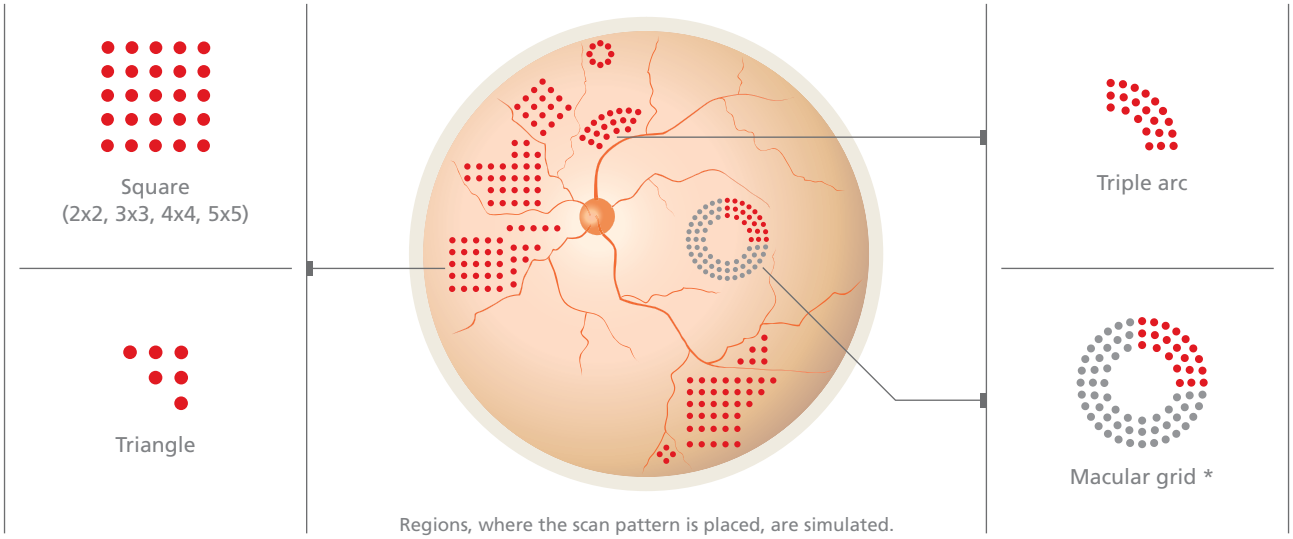


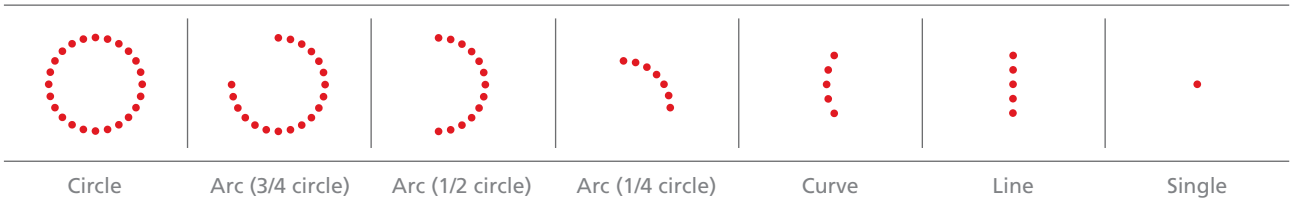


Illustrations above are simulation of aiming laser spots on retina.

Multiple Scan Patterns

The MC-500 Vixi has 14 preprogrammed scan patterns to allow treatment of varying retinal pathology.

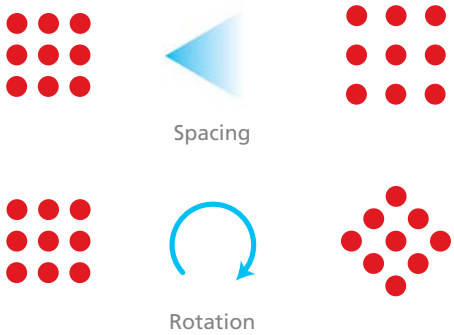




*The macular grid pattern is used for treatment of the periphery of the macular in quadrants. The inner diameter is fixed and spot size ranges from 100 to 200 µm.

Spot Spacing & Pattern Rotation

The spacing between spots for each pattern can be changed and the pattern can be rotated (15° increments) easily using an LCD touch screen.

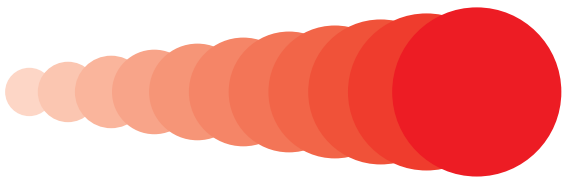


Memory of Scan Pattern

Four frequently used scan patterns can be saved and recalled with one selection in the LCD menu.

Continuously Variable Spot Size

The scan spot size is continuously variable from 100 to 500 µm (50 to 500 µm in single mode).
The spot size on the retina changes with laser contact lenses. The continuous variability enables the surgeon to easily compensate for these changes.



Wide Range of Delivery Option

Besides conventional single deliveries the scan deliveries are added to the wide range of multicolor laser deliveries. Both of the scan and single deliveries include attachable models* for NIDEK SL-1800, Zeiss SL130 and 30SL/M, which provide the existing slit lamps with new stage for scan laser treatment.

* Prior confirmation of existing model's status is necessary for attachable models.

Scan Deliveries (MC-500 Vixi)

Scan slit lamp delivery
(NIDEK SL-1800)

Scan attachable delivery
(NIDEK SL-1800, Zeiss SL130)

Scan attachable delivery
(Zeiss 30SL/M)

Single Deliveries (MC-500)

Slit lamp delivery
(NIDEK SL-1800)

Attachable delivery
(NIDEK SL-1800, Zeiss SL130)

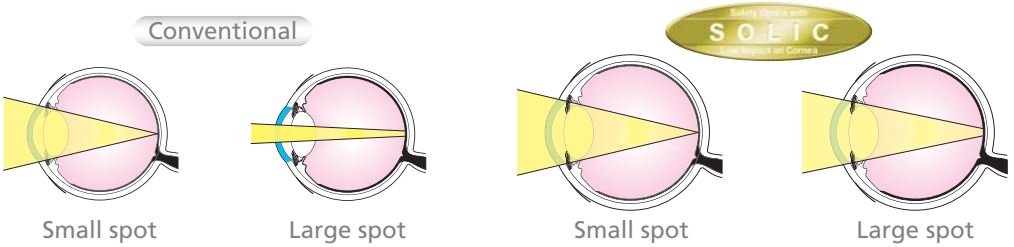
Attachable delivery
(Zeiss 30SL/M)

BIO delivery
(HEINE OMEGA 500)

NIDEK YC-1800 YAG laser
combination delivery

SOLIC (Safety Optics with Low Impact on Cornea)

All scan slit lamp and slit lamp delivery units including attachable models incorporate the SOLIC optical design that ensures low energy density on the cornea and lens even for large spot sizes.



Practicable Main Body with Useful Features

Intuitive Color LCD Touch Screen

The color LCD touch screen has an intuitive menu clearly indicating scan patterns and photocoagulation data. When the status is switched from standby to ready the LCD brightness decreases so that there is no interference with the surgeon's visibility of ocular pathology during treatment.

STANDBY

READY

Memory of Photocoagulation Data

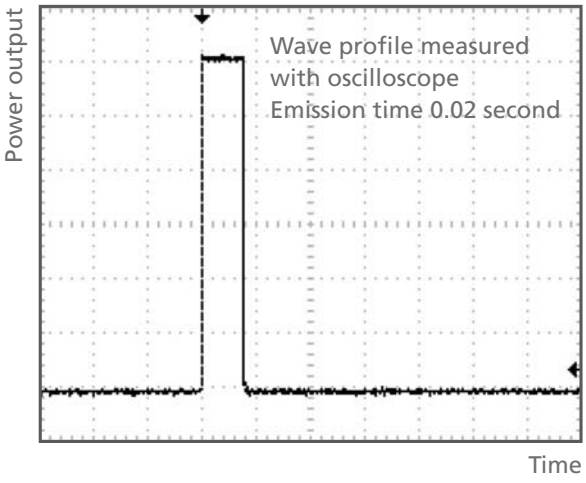
10 sets of photocoagulation data (color, power output, emission time, and interval time) applied to various clinical cases can be registered.
Each set is retrievable with one-touch operation.

Memory No	Name	Color	Power mW	Time sec	Interval sec
1	PRP Scan G	G	300	0.020	0.00
2	PRP Scan Y	Y	300	0.020	0.00
3	PRP G	G	200	0.200	0.40
4	PRP Y	Y	150	0.200	0.40
5	BRVO	G	200	0.200	0.00
6	CRVO	R	200	0.200	0.00
7	LI-1	G	200	0.200	0.00
8	LI-2	G	1000	0.020	0.00
9			000	0.000	0.00
10			000	0.000	0.00

Exit

Stable Laser Power Output

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



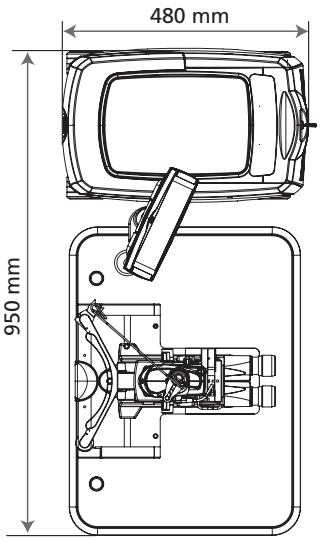
Economical and Ecological

The MC-500 Vixi / MC-500 reduces power consumption by 60% compared to the previous model. This energy saving is one of many examples of NIDEK's commitment to global environmental protection. NIDEK has been awarded ISO 14001 certification.

Main Body Specifications

Laser type	Solid state laser, Diode laser
Wavelength	Green : 532 nm Yellow : 577 nm Red : 647 nm
Power output	Green : 50 to 1700 mW *1 Yellow : 50 to 1500 mW Red : 50 to 800 mW
Output type	Continuous wave
Emission time	0.01 to 1.00 second, 2.00 seconds, 3.00 seconds *2
Interval time	0.05 to 1.0 second *3
Aiming laser	Red diode, 670 nm, max. 0.4 to 0.8 mW
Cooling system	Air-cooled
Power supply	AC 100 to 240 V, 50/60 Hz
Power consumption	400 VA
Dimensions / Mass	300 (W) x 480 (D) x 670 (H) mm / 35 kg 11.8 (W) x 18.9 (D) x 26.4 (H) " / 77.1 lbs.

*1 50 to 1500 mW with scan deliveries
*2 0.01 to 0.03 second in scan mode of scan deliveries
*3 0.3 to 1.0 second in auto manipulation mode of scan deliveries
Not variable in scan mode of scan deliveries

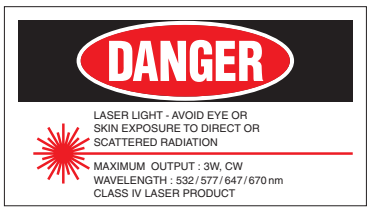


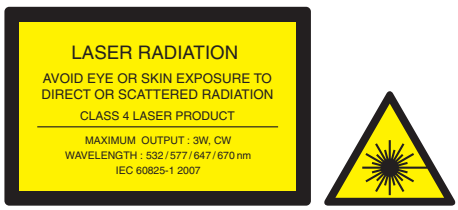
Foot print

Scan / Single Delivery Specifications

Model	Scan delivery (MC-500 Vixi)	Single delivery (MC-500)
Spot size	100 to 500 μm (scan mode & auto manipulation mode) 50 to 500 μm (single mode)	50 to 1000 μm (slit lamp & attachable deliveries)
Emission pattern	Single Square (2x2, 3x3, 4x4, 5x5), Circle, Arc (3/4 circle, 1/2 circle, 1/4 circle), Triple arc, Macular grid, Triangle, Line, Curve	Single
Type	Scan slit lamp delivery (NIDEK SL-1800) Scan attachable delivery (NIDEK SL-1800, Zeiss SL130 & 30SL/M)	Slit lamp delivery (NIDEK SL-1800) Attachable delivery (NIDEK SL-1800, Zeiss SL130 & 30SL/M) BIO delivery (HEINE OMEGA 500) NIDEK YC-1800 YAG laser combination delivery
Dimensions / Mass	600 (W) x 450 (D) x 1300 to 1500 (H) mm / Approximately 45 kg *4 23.6 (W) x 17.7 (D) x 51.2 to 59.1 (H) " / Approximately 99.2 lbs. *4 (NIDEK SL-1800 scan slit lamp delivery with table)	← ← (NIDEK SL-1800 slit lamp delivery with table)

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





Product identification - Multicolor Laser Photocoagulator MC-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.
FDA 510(K) market clearance for the scan delivery is pending.
Specifications and design are subject to change without notice.
All LCD images are simulated.

Eye & Health Care
NIDEK CO., LTD.

HEAD OFFICE
34-14 Maehama, Hiroishi
Gamagori, Aichi 443-0038, Japan
Telephone : +81-533-67-6611
Facsimile : +81-533-67-6610
URL : http://www.nidek.co.jp
[Manufacturer]

TOKYO OFFICE
(International Div.)
3F Sumitomo Fudosan Hongo Bldg.,
3-22-5 Hongo, Bunkyo-ku, Tokyo
113-0033, Japan
Telephone : +81-3-5844-2641
Facsimile : +81-3-5844-2642
URL : http://www.nidek.com

NIDEK INC.
47651 Westinghouse Drive
Fremont, CA 94539, U.S.A.
Telephone : +1-510-226-5700
: +1-800-223-9044 (US only)
Facsimile : +1-510-226-5750
URL : http://usa.nidek.com

NIDEK S.A.
Europarc
13, rue Auguste Perret
94042 Créteil, France
Telephone : +33-1-49 80 97 97
Facsimile : +33-1-49 80 32 08
URL : http://www.nidek.fr

NIDEK TECHNOLOGIES Srl
Via dell'Artigianato, 6 / A
35020 Albignasego (Padova), Italy
Telephone : +39 049 8629200 / 8626399
Facsimile : +39 049 8626824
URL : http://www.nidektechnologies.it

VEGETABLE OIL INK