One vision, Two sharp eyes
with Our Innovation

EM-4000

SPECULAR MICROSCOPE

- Wide area capture including outer peripheral
- Dark area analysis function
- Automatic analysis and a variety of manual analysis modes
- Continuous automatic capturing reduces capturing errors
- Increased speed ensures patient comfort.
- Large volume database and back-up capabilities with SD card
- Oversized adjustable touch screen
- Automatic acquisition and automatic shot

EM-4000 SPECIFICATIONS

Observation and analysis of corneal endothelium

Photographing method
Non-contact

Photographing range
0.25mm x 0.54mm

Measurement mode
Auto/Manual/Auto Alignment Manual Shot

Capturing position
Center + 12peripheral points

Cornea thickness measurement accuracy
+/- 10 µm

Analysis method
Automatic analysis / L-count/Core Method

Analysis values
Number (the number of analyzed cells)
CD (cell density) AVG (average cell area)
SD (standard deviation of cell area)
CV (coefficient of variation of cell area)
Max (maximum cell area) Min (minimum cell area)

Histogram
Area (Polymegathism: Distribution by areas)
Apex(Plemorphism: Distribution by polygonal shapes types)

Main unit

Display
10.4"color LCD

Stroke of moving sections
88 mm (X axis); 40 mm (Y axis); 50 mm(Z axis)

Stroke of chin rest
70 mm

Built in Printer
Thermal printer

Data output type
USB-Hx2, USB-Dx2, LAN, SD Card(for Internal Database)

Dimensions and weight
309 (W) x 491 (D) x 450 (H) mm; approx. 22 kg

Power source
100 VAC-240VAC; 50/60 Hz, 100 VA

TOMEY

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SPECULAR MICROSCOPE

Total Automation resulting in faster and more accurate exams!

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TOMEY

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SPECULAR MICROSCOPE

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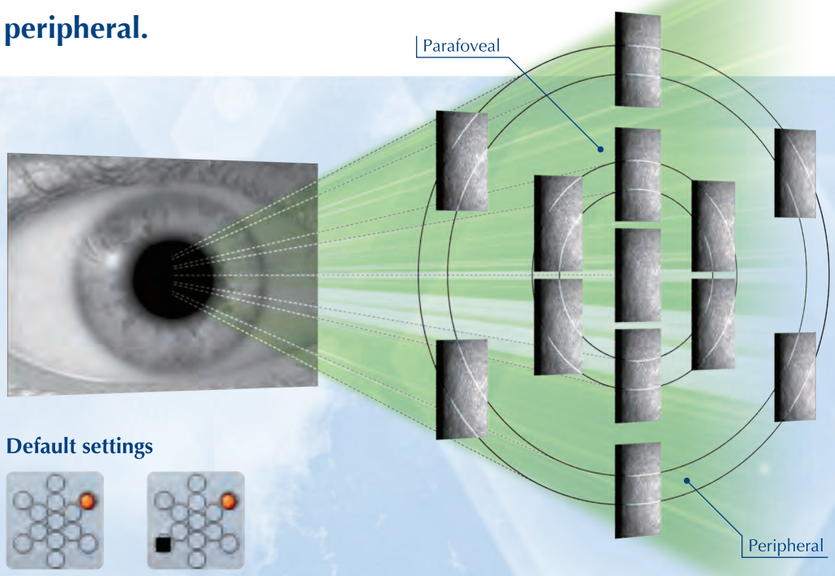
Wide variety of capturing and analysis functions

●Wide Capturing area including peripheral.

Wide capturing area of 0.25×0.54mm can be viewed utilizing original technologies. The endothelium can be viewed in a wide area of the cornea. Having the patient fixate their eye on the fixation light enables the unit to capture images at 13 points in total. The wide range of capturing positions has increased the chances of capturing images on patients with partial cornea opacity.
A mark indicating the image capture location can be added to the icon that indicates the selected position of the fixation light.
Central cornea thickness can be measured simultaneously.
The estimated measurement in the ultrasound mode can also be displayed.



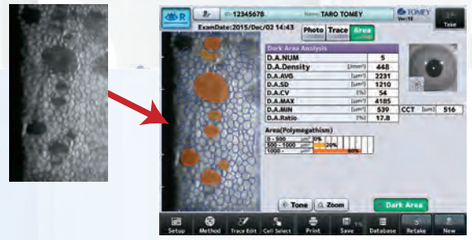
Default settings

Indication of light position OFF

Indication of light position ON

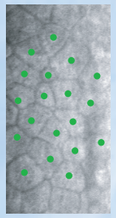
●Dark Area analysis function

Dark areas, a characteristic diseased condition such as cornea guttata, can be automatically determined and excluded from the analysis results.
The dark area ratio (D.A. Ratio) in the capture area can be calculated and displayed.



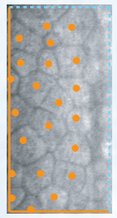
●Automatic analysis and variety of manual analysis

The main unit alone can perform automatic analysis as it is equipped with built-in automatic analysis software.
In the event that the captured image is unclear due to a disorder or the like, automatic analysis may be difficult.
Considering such cases, two manual analysis methods have been prepared.



Core method New

Touch the core of endothelium tissues in the area containing a large number of cells to perform analysis based on that information.



L count method

Set the desired area frame and touch the endothelium tissues displayed in the frame to perform analysis based on that information.

Smooth and speedy

●Continuous automatic capturing reduces capture errors

Capture errors have been reduced by continuously capturing 16 images with one-time capturing operation.
The best quality image is automatically selected and displayed. Selecting the desired image is also possible.

●Increased speed ensures patient comfort

Compared to older models, capture, analysis and export can be completed in half the time, resulting in patient comfort.

Capturing
[Both eyes 4 Sec.
(Single eye 2 Sec.)]

Analysis result display
[6 Sec.]

Data transfer

●Database function and its usage New

A database function is provided in the main unit.
Two sets of data can be displayed simultaneously, allowing you to compare observations before and after surgery for the same patient.
Data for approx. 16,000 patients can be stored in the SD card set in the main unit.
Performing reanalysis using a different analysis method is possible by retrieving data that has been stored.

* For facilities that handle enormous amounts of data, it is recommended to use a personal computer to perform analysis and data management.

●Equipped with built-in printer

Displays the endothelium image and the analysis result.
An external printer is not necessary, leading to cost reduction.