

Specular Microscope EM-2

**For corneal
endothelium
non-contact
analysis.**



► Why you need a microscope?

The endothelium is a cellular tissue of the cornea, particularly important for the whole activity of the ocular system.

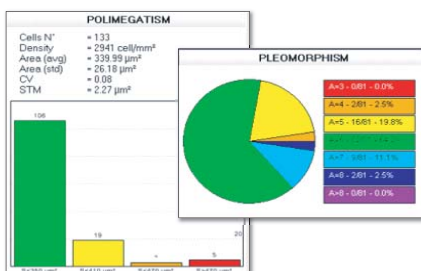
In children and young men it is composed of hexagonal cells, that they do not reproduce themselves; in this way, their shape and their quantity are indices of the health state of cornea.

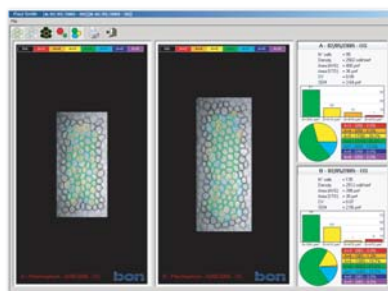
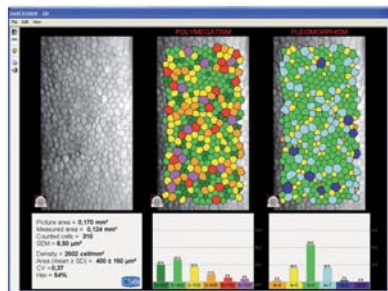
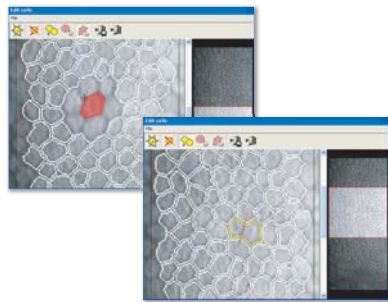
We normally have about 4000 cells/mm² at birth, and with the passing time they diminish; by diminishing, they modify the reticular structure.

► What does the microscope measure?

The bon EM-2 Specular Microscope allows automatic, non contact acquisition of the endothelial image allowing the display and evaluation of some clinically useful cell parameters such as;

- cells density and average area
- some surface deviation indices
- cells shapes percentages
- area sizes histogram
- pachimetry data





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- ▶ **The bon EM-2 system uses new solutions,** that are not available in competitor's models, making the instrument unique. Some of them are:
 - The acquisition procedure is controlled by software, increasing system reliability (few electronic devices are used), a lower (designing and producing) cost and by making the instrument more flexible.
 - The digital CCD camera allows you to acquire high quality well contrasted images.
 - The algorithm designed to choose the best acquired frame is completely new.
 - Patient examinations and acquired pictures are stored in a database, making it possible to manage data after examinations.
- ◀ Counting software is full automatic and, in cases of seriously degraded endotheliums, a manual cells editing tool is available:
 - Add circular cells
 - Add polygonal cells
 - Delete cells
 - Divide cells
- ◀ Size and cells density are evaluated and shown. **Cells count, Cells density, Average area, Area STD, CV (Variance Coefficient), SEM (Standard Error of Mean)**
- ◀ Percentages of cell sizes are evaluated and shown. **Number of cell sides, Cells counting, Percentages**
- Further developments could be Telediagnosis and automated examination.
- ◀ **Exams comparison**
- The system allows data exchange between other applications in Intranet / Internet environment. The exchange format is XML and the used protocol is SOAP (HTTP + XML).

Specifications, design and equipment are subject to change without any notice or obligation on the part of the manufacturer.