

Our Technology

The SCHWIND AMARIS® 750S

The absolute best performance from the leader in technology

The demands patients are placing on treatment methods and the results attainable in corneal surgery are constantly increasing. Shortest treatment times with perfect results are the prerequisite for any candidate for refractive surgery. The SCHWIND AMARIS® 750S sets a new standard - so patients can feel satisfied that we can do the best for them.

Superior in speed and precision

With a pulse rate of 750 Hertz – the SCHWIND AMARIS 750S is a genuine Total Tech Laser, 3 times faster than the other lasers. It takes only 1, 5 seconds to correct 1 diopter of myopia. Thanks to the 6D turbo eye tracker, it combines superior speed with extremely high precision. The result is maximum comfort during treatment. You only need to focus on the fixation light for a short time. The corneal stroma is only exposed for a very short time, which prevents it from drying out and accelerates the regeneration process. This is gentle on tissue, even at the highest ablation speeds.

The fastest Eye-Tracker world wide

The more perfect the centering of the eye and the positioning of the laser spots are, the more precise the results of a refractive treatment will be. That is why the eye tracker of the SCHWIND AMARIS 750S ensures the highest safety. With 1,050 measurements per second, the six dimensional active eye tracker monitors the exact position of the eye, and whilst doing so, compensates for every deviation with a typical reaction time of three milliseconds.

Automatic energy level adjustment

About 80 percent of the ablation is performed with a high energy distribution and for the remaining 20 percent – the SCHWIND AMARIS 500E automatically switches to a lower energy value. The result is optimum smoothing of the Cornea and a tissue saving operation

Intelligent Thermal Effect Control

The extremely small spot size of the laser beam and the thermal control process prevents damage to the surrounding corneal tissue, even at a high ablation speed. ITEC ensures that the laser pulses are distributed in a thermally optimized, dynamically adapted way, which gives the individual position on the cornea sufficient time to cool off.



Ideal climatic conditions

The AMARIS technology ensures stable microclimatic conditions across the cornea.

A thin, laminar stream of air flows exactly 40 millimeters above the cornea. Particles that could shield energy during the ablation are thereby

effectively removed. At the same time, the climatic conditions remain constant, preventing the cornea from drying out.

The unique "No-Touch" treatment- TransPRK

The only surface treatment in which the epithelium is ablated with the laser. No instruments touch the eye, and the epithelium can be ablated more precisely and more easily than before. The ablation of the epithelium and the actual refractive laser treatment are performed in a single step. This substantially decreases the total treatment time.

Artemis

Emmetropia pioneering for another time in the section of the health services ,acquires the unique in Greece and the second in Europe very high frequency(VHF) digital ultrasound eye arc-scanner, the Artemis II+. It is the first method available to accurately measure the internal dimensions of the eye to within one-tenth of millimeter. Artemis II+

takes advantage of the accuracy of ultrasound together with the 3D mapping capabilities of a scanner. Specially the Artemis' primary functions are to provide very high resolution ultrasound B-scan imaging of the anterior and posterior segment, high-precision 3-D mapping of individual corneal layers, 3-D mapping of anterior segment dimensions. The resolution of the Artemis II+, when set to scan cornea, is sufficient to distinguish individual corneal layers in microscopic level, such as the epithelium, stromal component of the flap, residual stromal bed, and others, all in 3-D, thanks to multimeridional scanning. This fact makes Artemis II+ unique in its type. Furthermore; the precise measurement of the dimensions of the anterior segment provides the ability to detect the existence of pathogenetic mechanisms, whose development can reveal different types of glaucoma. Moreover, the Artemis II+ is the first method that can detect the existence of early keratoconus. In detail, an Orbscan examination can show only clue of forme fruste keratoconus however with Artemis II+ we can examine and confirm the existence of forme fruste keratoconus.

According to the above functions, Artemis II+is the most suitable procedure either for the decision of a refractive surgery or for the insertion of a thin lens inside the eye, or for the detection of major diseases, like keratoconus or glaucoma. Moreover it is the most accurate method to decide retreatments especially in LASIK patients, due to the fact that it determines the thickness of the flap and especially the amount of stromal tissue remaining in the posterior cornea under the flap after surgery.

