

MICROSCAN VISUM

Ophthalmological excimer laser system of the new generation

Advantages of the new system

- Quick and precise operations
- Reliable tracking system
- Complete aberrometer compatibility
- Complete keratotopographer compatibility
- Femto-second laser system compatibility
- Long-term stability
- Ergonomic design



Innovative technologies



Flying-spot technology

provides high speed of operations at small thermal strain on the cornea;
forms smooth corneal surface;
forms wide ablation zones needed for hyperopia and presbyopia treatment;
creates aspherical surface of the cornea;
enables customized operations.

Optimized refraction technology

provides standard operations with minimum of induced aberrations and guaranteed size of functional optical zone.

Tissue-saving technology (economic ablation algorithm)

is realized by the means of optimal combination of the width of the optical zone and the peripheral suboptical zone. In the case of high myopia this technology enables decreasing ablation depth whilst achieving a good range of the functional optical zone.

Aspheric ablation technology (Q-factor)

enables aspheric ablation with a given conical constant, which allows controlling the range of postoperative spherical aberration.

Transition zone technology

provides smooth decrease of the refraction from the optical zone to the periphery of the ablation area.

Microlensing technology

provides smooth and simultaneous increase of the optical power of the sphere, cylinder and other aberrations during the ablation process in the both cases of standard and customized operations.

Ablation zone centering technology

provides a possibility of choosing the center of ablation (center of optical zone) either on the pupil center or on the coaxial corneal reflex or on another in-between position by doctor's decision.

Customized ablation technology (wave-front guided)

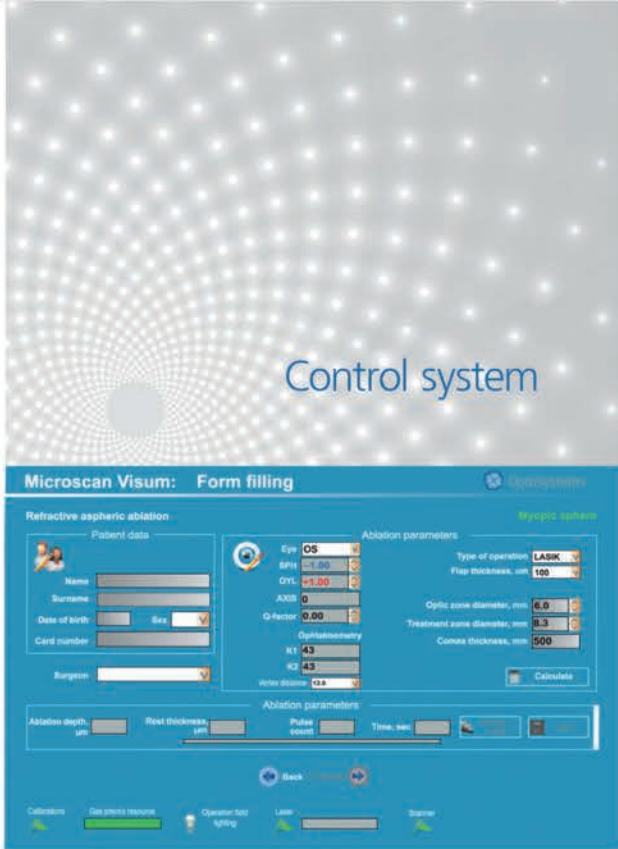
provides possibilities for customized ablation of irregular optical defects based on wave-front or topographic data.

Technology of automatic correction of pupil shift

compensates shift of patient's pupil during wave-front guided operations.

Laser pulse energy on cornea stabilization technology

guaranties stability of the ablation rate during the operation and thus improves the accuracy, repeatability and predictability of the clinical results.



Control software provides a whole range of operations for spherical and astigmatic correction including mixed astigmatism correction. This modern software and user-friendly interface have been specially developed for convenience of doctors and precise planning and performance of operations.

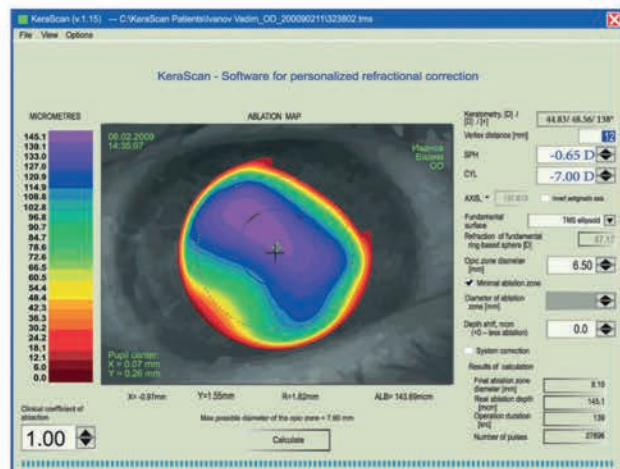
Control software provides:

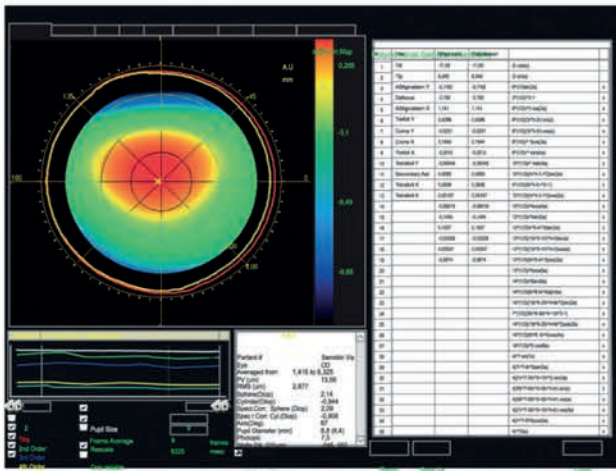
- input and storage of patient's data
- possibility to choose the center of the operation zone
- tissue saving ablation
- calculation and storage of operation parameters
- producing postoperative corneal surface with a given conical constant
- reinitiation of an interrupted operation after any time interval

KeraScan

Software package for customized ablation of irregular optical defects of the cornea based on topographic data.

KeraScan® software enables planning of the operation taking into account all the topographic information (initial picture, Platchido's rings, the location and the axis of mass of the pupil, topographic map of the cornea, diopter map of the cornea).





Software package for wave-front guided customized ablation enables customized correction of irregular optical defects on the basis of aberrometric data thus neutralizing the sum of the defects of the complete optical path of the eye.

Aberrometr MULTISPOT - 1000



Eye tracking system tracks the position of the ablation center and performs correction of the position of the laser beam during the operation. In the case of an intense deviation of patient's eye, the system will automatically stop the work of the laser and will provide the continuation of the operation from the stop point when patient's eye is back to the operative area.

Technical specification of the ophthalmological excimer laser system **MICROSCAN VISUM**

Eye tracking system

- provides safety and high accuracy of the operation
- allows to set the centre of the operation both in the pupil center and in any other point of the cornea
- uses high speed infrared camera for registration of the stable image of the eye
- is comfortable for the patient as no additional usage of pupil coarcting or widening medications is required

pulse repetition rate	500 Hz
laser spot diameter	0.9 mm
excimer laser	ArF, 193 nm, Laser energy control system High stability of laser energy
eye tracking system	high frequency limb tracking
aspiration system	built in
gas system	premix gas cylinder
software	OS Windows - compatible

Applications

- Lasik
- Epi-Lasik
- Femto-Lasik
- PRK, trans-epithelial PRK
- PTK
- Wave-front guided operations
- Topography data guided operations

Indications

- Myopia and myopic astigmatism
- Hyperopia and hyperopic astigmatism
- Mixed astigmatism
- Presbyopia

	PRK	LASIK
Myopia	up to -20* D	up to -14* D
Myopic astigmatism	up to -10* D	up to -6* D
Hyperopia	up to +10* D	up to +6* D
Hyperopic astigmatism	up to 10* D	up to 6* D
Mixed astigmatism	up to 10* D	up to 6* D
Presbyopia	up to 4 D	up to 4 D
Wave front	from +4 to -11 D	from +4 to -11 D
Therapeutic application	PRK: from 3 to 120 μ m, Optical zone: from 3.0 to 10.0 mm	

* Depends on the optical zone and Q-factor



IDEAL COMPATIBILITY WITH THE FEMTOSECOND LASER

Ophthalmological excimer laser system **MICROSCAN VISUM** can be used in combination with the femtosecond laser system **FEMTO VISUM** for Femto-LASIK operations for correction of refraction anomalies.



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