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Femto Visum



FULL RANGE OF FEMTOSECOND LASER
CORNEAL SURGERY APPLICATIONS
FOR DAILY CLINICAL PRACTICE
INTEGRATED LENTICULE EXTRACTION PROCEDURE

APPLICATIONS

Designed in cooperation with practicing refractive surgeons, Femto Visum is an innovative, efficient and reliable laser system which is well qualified for the most demanding applications in modern corneal surgery.

FEMTOLASIK

Create a perfect flap with customized side-cut angle.

LENTEX

Lenticule extraction, a minimally invasive all-femto treatment of myopia, hyperopia and astigmatism.

KERATOPLASTY

Anterior, posterior or penetrating. Make a graft with any side-cut shape such as mushroom, top-hat and zigzag.

TUNNEL

Radial keratotomy and corneal relaxing incisions for the treatment of myopia and astigmatism.

POCKET

Implant a 360-degree ring for the treatment of keratoconus. Or implant corneal inlay for the treatment of presbyopia.

INCISIONS

Treat keratoconus with implanting of intracorneal ring segments.

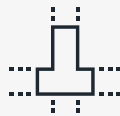


ATRAUMATIC QUARTZ PATIENT INTERFACE

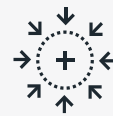
- Interface made of quartz ensures higher precision and better flap thickness uniformity than plastic interfaces
- Flat shape of interface ensures uniform laser density distribution and stable cut thickness along the flap.
- Multiple sizes available
- Secure eye hold
- Vacuum eye fixation for less than 25 seconds



LOW VACUUM -
NO SCLERAL
HEMATOMAS



OPTIMIZED SHAPE -
REDUCED INTRAOCULAR
PRESSURE

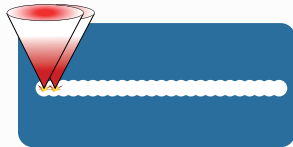


EASY,
VACUUM-HOLD
INTERFACE DOCKING



FLAPS WITHOUT TISSUE BRIDGES

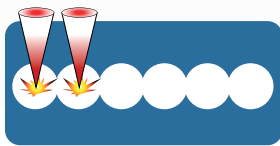
With it's high repetition rate, low energy femtosecond laser source and innovative beam scanning features, Femto Visum delivers perfect, easy detachable flaps.



FEMTO VISUM

NANOJOULES AT MEHAHERTZ

- Low pulse energy and small focal spot size - small cavitation bubbles and reduced cut thickness.
- Distance between laser spots is smaller than bubble size - no chance for tissue bridges.
- Smooth cut surface with minimal roughness.
- No risk of flap perforation or complete separation.
- Less than 90 um flap for sub-bowman's femtolasik.



OTHER

MICROJOULES AT KILOHERTZ

- Higher laser pulse energy - big bubbles and higher destructed tissue volume, thick cut, high gas formation.
- Distance between laser spots is bigger than bubble size, leaving a space for tissue bridges.
- Higher roughness leads to long postoperative recovery.



MULTI OVERLAY

Laser beam scan lines are overlapped to ensure the tissue bridges elimination



EASY LIFT

Laser spot density on the sides of the cut area is increased to ensure the easy flap separation



SMOOTH LINES

Spot density is decreased at the area of the scan lines overlapping to ensure the uniform fluence



FEMTO LASER FL 300

OWN DESIGN AND PRODUCTION



200-400 fs
pulse duration
shortest on the market



1 MHz
repetition rate optimized to
ensure spot overlapping



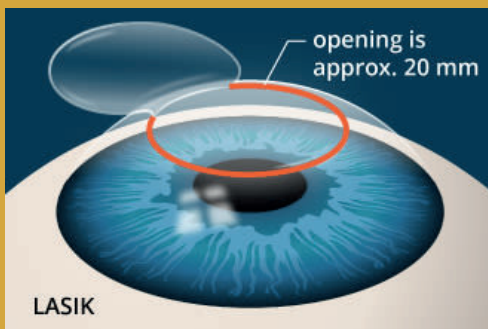
RELIABILITY, SAFETY,
STABILITY



HIGH EFFICIENCY,
LOWER GAS
FORMATION,
NO CORNEA HEATING



LOW COST OF
OWNERSHIP



Lentex, offers the same correctional abilities with Lasik but with the benefits of:

- Faster recovery of post-op dry eye
- Quicker reinnervation of corneal nerves
- Biomechanical advantages.

Lentex is the NEW option for more patients undergoing refractive surgery, due to its minimally invasive technique!



COMPACT, MOBILE AND FRIENDLY



- 1036 Pearl Gold
- 5011 Steel Blue
- 6005 Moss Green
- 7016 Anthracite Grey
- 3003 Ruby Red
- 9017 Traffic Black

- 75 x 80 cm footprint - smallest on the market.
- Easy transportation with no need for realignment, e.g for emergency swapping between operating rooms.
- Laser crosshair for easy eye docking
- Ergonomic design and software enable operations without an engineer.
- Two sterilizable keypads for left- and right-handers.

Integration with any excimer laser using rotating patient table.



INTUITIVE SOFTWARE

- Full touchscreen control - no mouse, trackball, etc.
- Access to operation parameters console even on "eye is hold" status.
- Software control of flap and pupil centering.
- Comfortable font size and color scheme.



TECHNICAL SPECIFICATION

SUPPORTED APPLICATIONS

- FemtoLASIK
- Lentex - lenticule extraction
- Anterior, posterior and penetrating keratoplasty
- Tunnel for corneal segments
- Pocket for 360-degree ring and presbyopia inlay
- Corneal relaxing incisions and radial keratotomy

System specifications

Type of corneal procedures	1. S-LentEx 2. F-LentEx 3. Corneal flap (Z-LASIK) 4. Lamellar keratoplasty (LKP)	5. Penetrating keratoplasty (PKP) 6. Intrastromal pockets (ICP) 7. Intracorneal rings (ICRS) 8. Corneal relaxing incisions (CRI)
Laser type	All-fiber femtosecond	
Central laser wavelength	1030 - 1035 nm	
Laser pulse duration	300 – 400 fs	
Laser repetition rate	1 MHz	
Output laser energy	250 - 950 nJ	
Treatment depth	80 – 1100 μ m (1 μ m step)	
Focal spot size	< 2 μ m	
Laser spot spacing	2 - 5 μ m	
Eye vacuum level	adjustable, 400 – 600 mBar	
Eye vacuum retention time	< 25 seconds (depend on operation type)	
Double vacuum fixation	Eye fixation & Patient interface fixation	
System control	Touchscreen, sterile keyboard, foot pedal	
Second nonsterile keyboard	Yes	
Tissue bridges	Negligible, “Multi Overlay” & “Smooth Lines” technologies	
Anterior chamber gas bubbles	Negligible, because of small laser energy	
Quality of flap side cut	Very smooth, “Easy Lift” technology	
Optical transparency of the cornea after procedure	Several seconds	
Calibration	Visual control of Test-objects	
Docking video resolution	950x950 pixels	
Eye docking	Manually operated	
Remote control	Yes (communication server)	
Mobile	Easy integrate to operating room and displacement	
Compatible with all Excimer lasers	Yes	

Technical requirements & data

Warmup time	25 min
LED Display	touchscreen 19 - 24", IP65 protected
Dimensions WxLxH	156x76x153 cm (without monitor & microscope 156 x76x115 cm)
Weight	~ 250 kg
Input voltage, Power	220 VAC , 50-60 Hz 300 W (maximum)
Uninterruptible Power Supply	650 – 500 VA (optional)
Environmental conditions	18 - 30°C, 10 - 90% rH

EYEΦOSTM φ

Femto Visum

Worldwide Representation Platform

