OCTAX Laser Shot™ System for ART

Components
- OCTAX Laser Shot™ module
- CTAX EyeWare™ Basic
- OCTAX Laser Lens™
- OCTAX Eye™ USB 2.0 camera
- Adaptation to microscope

Optional
- OCTAX Foot or hand trigger
- OCTAX polarAIDE™
- OCTAX EyeWare™ MX and Web
- OCTAX Motorized stage
- Analog video support

Most advanced laser technology for ART featuring digital control and digital video/image processing using the latest in computer technology combined with highest optical and mechanical quality.
OCTAX Laser Shot™ System for ART

OCTAX Laser Shot™ is the next generation laser system for ART, featuring digital control, treatment, video and image processing. Highest precision components of German and Swiss origin guarantee outstanding optical and mechanical quality. Our laser is the first laser system for ART that was evaluated in a multicenter study and was proven to be safe. Almost all scientific papers describing the use of a laser for ART are based on the OCTAX laser or its predecessor, Fertilase®. Today, it is the only laser whose safety was analyzed and validated in a follow-up study on children born after laser assisted hatching.

**Outstanding scientific background:**
- First birth after laser assisted hatching (1.48 μm)
- First birth after laser assisted blastomere biopsy and PGD
- First birth after laser assisted polar body biopsy
- First birth after laser assisted immobilization of spermatozoa
- First pregnancy after laser assisted zona drilling for ICSI
- First pregnancy after laser assisted removal of necrotic blastomeres from frozen-thawed embryos
- First baby tested for breast cancer form BRCA1 by PGD born in UK

List of scientific references available at www.mtg-de.com

**Applications**

- Zona Drilling
- Zona Thinning
- Polar Body Biopsy
- Trophectoderm Biopsy & PGD
- Blastomere Biopsy / PGD
- Sperm Immobilization

**Adaptation to various microscopes**

OCTAX Laser Shot™ is attachable to every major brand and type of inverted microscope. The OCTAX Laser Lens™ objective is compatible with modulation contrast, Relief contrast, DIC and PlasDIC for high image quality and contrast.
OCTAX EyeWare™ imaging software

OCTAX EyeWare™ is the latest imaging and archival software from OCTAX, delivering ease of use and functionality in controlling microscopic devices, microscopic imaging, measurements and documentation. It also provides the link between our OCTAX Eye™ USB digital camera and the user. The software complements the OCTAX Laser Shot™ for advanced micro-treatment in ART. All aspects of the laser device are controlled through the OCTAX EyeWare™ interface. Special emphasis lies on the ease of use of the software. With OCTAX EyeWare™ it takes only a few minutes to become an expert in laser control and imaging.

Advanced features:
- Multilanguage support: OCTAX EyeWare™ is available in German, English, French, Chinese, Hungarian and Japanese
- Patient database module without limitation in number of datasets and stored images per patient
- Image capturing in high resolution, up to 2048x1536 pixel, supporting analog and digital cameras
- Instant printing of photos directly from live video
- Easy report printing, exporting reports as PDF or RTF file for e-mail forwarding and word processing
- Data import / export from and to external database systems, online connectivity to patient data residing on SQL server
- Image export in JPG and BMP format, interface to RecDate (Germany)
- Controllable by mouse, keyboard short cuts, foot and hand operated triggers and others
- Multiple monitors (CRT, TFT, video) are supported on selected hardware

Software screenshot gallery

Laser targeting: live video display with crosshair and calibrated measurement grid overlay
Biometric measurements: direct calibration and direct interactive measurement
Imaging software: one button instant image capture, background image gallery
Image database: access to image data via database organized per patient and treatment, multiple search features

Additional features of EyeWare™ MX

Digital video recorder: Record and archive live video sequences in Windows Media™ Video format
Network broadcast function: Broadcast live video into local area network or the internet
PowerPoint slide show: Export contents of Quick File to PowerPoint and run a slide show in seconds
Time lapse recording: Automatic image recording in selectable intervals
Laser module specification

Laser: 1.48 μm Infrared Diode Laser, Class 1M
Power in focus: 100 - 150 mW +/- 15% (depending on microscope model, optics and heating stage), guaranteeing high laser efficiency with low energy
Irradiation time: 0.1 - 10.0 ms, in 0.1 ms steps
Laser targeting: live video display with crosshair and calibrated measurement grid overlay
Video display: with OCTAX EyeWare™ on computer monitor
Status indication: LED on OCTAX Laser Shot™ module, user interface on computer (OCTAX EyeWare™)
Release of laser irradiation: via computer mouse or external foot/ hand trigger, repetitive single shot, acoustic feedback
Laser irradiation indication: LED on laser module, user interface on computer (OCTAX EyeWare™)
Drilling precision: < 1 μm, drilling reproducibility < 1 μm
Drilling range with one shot: ≈ 1 μm to ≈ 25 μm (depending on zona pellucida characteristics)
Drilling range with multiple shots: arbitrary size
Beam position stability: < 5 μm per month
External connectors (laser module): connection to computer via USB cable, and power supply
Supply voltage: 100 - 240 V AC, 50 or 60 Hz, 15 VA
Mechanical dimensions laser module: 9.0 x 9.0 x 10.0 cm
Objectives: OCTAX Laser Lens ™ 40x with long working distance (ELWD), optional: 25x ELWD biopsy objective for simultaneous micro manipulation and laser use, compatible with Hoffman modulation contrast
Cameras: USB2.0 up to 1280 x 1024 pixel, up to 30 fps; USB2.0 3-Megapixel up to 2048 x 1536 pixel, up to 30 fps

Hardware integration / customized solutions

Easy integration of OCTAX polarAIDE™
For more information about polarAIDE™ please consult the brochure "Microdevices and Imaging Software"

Integration of epi-fluorescence
Easy and convenient use of laser and fluorescence specimen analysis on the same microscope.
Available for Olympus IX71 series microscope (right) and Nikon TE2000 microscope (left).

Requirements
- Computer Intel® Pentium 4™ based, min. 3.2 GHz, 256 MB graphic board
- Motherboard with Intel® chipset components
- 2 GB RAM, 320 GB hard disk, DVD-RW drive, min. 4 x USB 2.0 port
- Microscope with video port and c-mount adapter
- Operating System Microsoft® Windows™ XP / Vista / 7 professional
- Microsoft® DirectX 9c, Microsoft® Windows™ Media Player 8 or higher

Support and maintenance
- Laser system free of maintenance, allowing low running costs
- Superior mechanical and optical precision makes realignment unnecessary during routine use
- No wearing parts or components that need replacement on a regular basis
- Minimum of 2 years period of warranty
- Free software maintenance updates
- Multilingual speaking service personnel
- Spare parts are available for a period of min. 8 years

Photos courtesy CHUV, Lausanne, Switzerland; University Womans Clinic, Bonn, Germany

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June 2013
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