NEXT FRONTIER IN IOL DESIGN:

Turn your Automated Capsulotomies into Great Vision!
FEMTIS® IOL Design

In modern refractive cataract surgery, surgeons and industry alike are always on the quest for perfect outcomes and continuous improvement, as patients have very high expectations for their vision. With ever increasing precision through improvements in preoperative diagnostics and now also the possibility to automate important steps of the surgical procedure like the automated Capsulorhexis, we are striving to meet these high expectations.

So when it comes to the intraocular lens, we should be able to harness all these improvements by using an IOL that through its design gives us perfect centration, excellent stability and best possible optical quality. The newly developed, rheisfixated FEMTIS® IOL has 4 additional anteriorly placed haptics that are placed in front of the anterior capsule in the automatically created perfectly round and centered CCC.

Key features at a glance*

FEMTIS®
- Very high rotational stability thanks to its haptic design
- Perfect centration due to its fixed positioning in the capsulorhexis
- Natural image and colour perception
- Natural contrast and colour perception
- Aspherical optic
- True 360° sharp optic edge
- Aberration neutral

FEMTIS® Comfort
- EDOF-IOL: Extended depth of focus for an optimised vision covering patients’ requirements for most daily routines
- Excellent visual acuity results for the intermediate and distance ranges
- Improved contrast and depth of focus for optimal vision in low light condition
- Computer or varifocal lenses no longer necessary
- High patient satisfaction

FEMTIS® IOL platform
a promise for refractive lens designs.

* Preliminary results of the multicenter study conducted by G.U. Afflurth (MD), Heidelberg, Germany, data on file
1. Pupil dilation

To implant the FEMTIS® IOL, and particularly for the enclavation of the additional haptics, we recommend the use of long-lasting pupil-dilation drops or tablets in order to guarantee the largest possible field of vision during the surgery. The pupil size can be reduced if you are using a Femtosecond laser.

2. Creating an automated capsulorhexis

Observe the correct rhesis size recommended for the equipment used. During the first implantation, select the largest possible rhesis size. After a phase for learning how to fix the additional haptics, the used rhesis size can be successively reduced in order to determine the most suitable individual values.

The monofocal FEMTIS® can be optionally centred on the optical visual axis, the Purkinje reflex or the centre of the pupil. For the FEMTIS® Comfort with integrated additional segmented section for enhanced depth of focus, the capsulorhexis is ideally centred on the optical visual axis.

3. Removing the lens core and cortex

If a Femtosecond laser is used, the lens core and cortex can be fragmented and then aspirated using the Phakotip. The removal of the lens core and cortex after use of the Capsulaser and Zepto occurs through phacoemulsification according to the current operating methodology, without fragmentation.

4. Filling the capsular bag and anterior chamber with viscoelastic solution

For secure implantation of the FEMTIS® IOL, the capsular bag and the anterior chamber are set up with cohesive viscoelastic solution.

5. Implanting the FEMTIS® IOL in the capsular bag

The complete FEMTIS® IOL, inclusive of the four additional haptics, is first implanted in the capsular bag. Prior to this, check that the lens is correctly positioned in the injector cartridge (observe the position of the optical markings A, B and C), in order to prevent lateral displacement of the implanted IOL. The additional haptics must be located at the top on insertion, otherwise you will not be able to fix it in the capsulorhexis.
6. Aspiration of the Viscoelastica behind the IOL

Before the FEMTIS® with its additional haptics is fixed in the capsulorhexis, it is important to aspirate all of the viscoelastic solution behind the IOL. The optical system of the FEMTIS® has three additional openings (optical markings A, B and C) through which viscoelastic solution can also be aspirated.

7. Using Viscoelastica for enclavation

In order to fix the four additional haptics of the FEMTIS® IOL securely in the capsulorhexis, viscoelastic solution is again applied in front of the IOL.

8. Enclavation of the additional haptics

First, the two large additional haptics (fig. 8a), then the two small ones (fig. 8b), are manipulated using a Sinskey hook in front of the capsulorhexis to fix the lens in its final position.

9. Checking the fit of the IOL and using miotic

After aspiration of all the viscoelastic solution, check the fit of the lens. Then, applying miotica to see whether the four additional haptics fixed in front of the capsulorhexis are located behind the iris. Iris capture rarely occurs, but if this is visible, the additional haptics must be manipulated using a Sinskey hook behind the miotised iris before the end of the surgery.
Equipment that can be used for automated capsulorhexis and rhexis size

<table>
<thead>
<tr>
<th>Femtosecond laser</th>
<th>Capsulase™</th>
<th>Zepto™ (manually)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LENSAR®: 4.8 - 5.0 mm</td>
<td>Capsulase™: 5.0 - 5.2 mm</td>
<td>Zepto™: 5.2 mm</td>
</tr>
<tr>
<td>LensX®: 5.0 - 5.2 mm</td>
<td></td>
<td></td>
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<tr>
<td>Catalys®: 5.0 - 5.2 mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Victus®: 5.0 - 5.2 mm</td>
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<td></td>
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<tr>
<td>LDV Z8: 5.0 - 5.2 mm</td>
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</table>

**Recommended rhexis size**

**NEXT FRONTIER IN IOL DESIGN - FEMTIS®**

Supplement to Cataract & Refractive Surgery Today Europe 10/2017

In six articles renowned ophthalmic surgeons describe their current clinical results and experience with the FEMTIS® intraocular lens.

*Detlef Holland, MD, Pavel Stodulka, MD, PhD, Sunil Shah, MBBS, FRCOphth, FRCS(Ed), Luis Salvá, MD and Scott Anderson García, MD, Florian T.A. Kretz, MD, FEO, Patrick Versace, MD*

Download your digital copy of the supplement: [www.oculentis.com/bibliography](http://www.oculentis.com/bibliography)
## Data at a Glance

**FEMTIS® | FEMTIS® Comfort**

One-piece posterior chamber lens with aspherical surface for fixation in the automated continuous circular capsulorhexis. As Comfort version additionally with optimised depth of focus.

<table>
<thead>
<tr>
<th>Product</th>
<th>FEMTIS® FB-313</th>
<th>FB-313G</th>
<th>FEMTIS® Comfort FB-313 MF15</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type</strong></td>
<td>Foldable one-piece acrylic IOL for easy fixation in the capsulorhexis</td>
<td></td>
<td></td>
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<tr>
<td><strong>Optic Size</strong></td>
<td>5.7 mm</td>
<td></td>
<td></td>
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<tr>
<td><strong>Overall Length</strong></td>
<td>10.5 mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Haptic Angulation</strong></td>
<td>0°</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Optic Design</strong></td>
<td>Biconvex</td>
<td>Aspherical surface - posterior</td>
<td>Biconvex</td>
</tr>
<tr>
<td><strong>Design</strong></td>
<td>Optic and haptics with stepped square edges</td>
<td>posterior 360° continuous barrier effect</td>
<td></td>
</tr>
<tr>
<td><strong>Material</strong></td>
<td>HydroSmart® - a copolymer consisting of acrylicates with hydrophobic surface, UV absorbing</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Available Diopters</strong></td>
<td>+15.0D to +30.0D (0.5D)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Refractive Index</strong></td>
<td>1.46</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>IOL Constants</strong></td>
<td>nominal</td>
<td>Haigis</td>
<td>HofferQ</td>
</tr>
<tr>
<td></td>
<td>A = 117.8</td>
<td>a0 = 0.515</td>
<td>pACD = 4.75</td>
</tr>
<tr>
<td><strong>Recommended Rhexis Size</strong></td>
<td>4.8 - 5.2 mm</td>
<td></td>
<td></td>
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<tr>
<td><strong>Recommended Incision Size</strong></td>
<td>2.2 mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Recommended Injector</strong></td>
<td>reusable</td>
<td>Injector: Viscoject-1-hand: L604205</td>
<td>Cartridges: Viscoject BIO 2.2 Cartridge-Set: LP604240C</td>
</tr>
<tr>
<td></td>
<td>Viscoject-2-hand: L604215</td>
<td></td>
<td></td>
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<tr>
<td><strong>Recommended Injector-Set</strong></td>
<td>disposable</td>
<td>Accuject 2.1-BL Injector-Set: LP604595</td>
<td>Viscoject BIO 2.2 Injector-Set: LP604340C</td>
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