ZEISS OVD Portfolio
The power of choice at every step
Based on 20+ years experience, development and production, ZEISS provides a state-of-the-art OVD portfolio that supports your work at each step of the ophthalmic procedure.

As ZEISS OVD and IOL technology comes from one experienced source, the products are perfectly aligned with one another. ZEISS not only strives to create high quality OVDs – the company also puts effort into environmental priorities such as offering multipack solutions. ZEISS OVDs originate from bacterial fermentation.

The selection of an OVD can impact the success of the ophthalmic surgery as well as the patient outcome. Therefore, choosing the right OVD is crucial – especially in challenging cases. The main function of an ophthalmic viscosurgical device is to protect the endothelial cells at each step of the surgery. There are various types of OVDs serving this purpose in a different manner.

### ZEISS OVD Portfolio
Supporting each step of the ophthalmic procedure

The choice that matters

**Viscous-cohesive products**
This type of OVDs are very good at space creation and maintenance due to their higher viscosity and molecular weight. Therefore, they can minimize the interaction between instrument and tissue and absorb shock during phacoemulsification. This way, they can protect the delicate tissues in the anterior chamber.

**Lower viscosity dispersive products**
This category of OVDs coat the endothelial cells during all surgical maneuvers due to their low degree of cohesiveness. Through their protecting layer, they provide safety for the endothelium.

Great surgical clarity has been traditionally provided by both categories in order to enable excellent vision during surgery.

In cases that take longer or require significant manipulation of the ocular tissues, an extra protection can improve postoperative endothelial cell count and corneal clarity. Therefore, a dual OVD could offer the best for all surgical needs in the OR.
The power of choice at every step
More options for you

ZEISS provides a wide range of innovative ophthalmic viscosurgical devices that fully support the surgical workflow – giving you the choice to select the OVD that best matches each individual ophthalmic case.

The ZEISS OVD portfolio includes:

- A unique 2-in-1 solution – a viscous-cohesive OVD with ancillary anesthetic: VISTHESIA®
- Dual viscosity OVDs – in two separate syringes: COMBIVISC® or both in one syringe: TWINVISC®
- For protection of the endothelium and other tissue – low-viscosity and medium-viscosity dispersive OVDs: Z-CELCOAT® and Z-HYALCOAT®
- For space creation and maintenance – viscous-cohesive OVDs: Z-HYALIN®, Z-HYALIN plus and Z-HYALON®
- For extensive space creation and maintenance – a super-viscous cohesive OVD: Z-HYALON plus

...multitalents

COMBIVISC
The perfect match of two OVDs for the entire surgery
Providing the optimal combination of a viscous-cohesive and a medium-viscosity dispersive OVD in two separate syringes. Giving you the space and protection you need in standard and complex cases - with fast and easy removal.

Cohesive part
(contains Z-HYALIN plus)
- Highly effective for space creation and maintenance in the anterior chamber
- Good capsular bag inflation
- Optimal chamber retention
- Ease of injection
- Fast and easy removal

Dispersive part
(contains Z-HYALCOAT)
- Reliable protection of the endothelium during various surgical maneuvers
- Great space partition
- Excellent optical clarity
- Ease of injection
- Short aspiration time

...overall comforter

VISTHESIA² / VISTHESIA intra
More comfort through pain relief even in prolonged surgery
The first and only OVD offering ancillary anesthetic and a viscous-cohesive ophthalmic viscoelastic combined in one solution.

Topical ampules
Preoperative topical application containing sodium hyaluronate (0.3%) with lidocaine (2%) that coats and hydrates the epithelial cells supporting clear vision into the eye.

Intracameral viscous-cohesive OVD
- Containing sodium hyaluronate in a concentration of 1% and 1.5%, both with lidocaine (1%)
- Effective space creation and maintenance in the anterior chamber
- Ensuring even dispersion of lidocaine throughout the eye to all tissues
- Providing endothelial protection and pupil dilation
- 2-in-1 solution saving time and preparation steps, since a separate intracameral anesthetic is not required

TWINVISC
Two OVDs, one device for each stage of the surgery
Combining a medium-viscosity dispersive and a viscous-cohesive viscoelastic in one syringe separated by an innovative bypass stopper system for a planned sequential injection. Providing an easy and unique approach to the soft-shell-technique.

- Reliable protection of the endothelium and other tissues during various surgical maneuvers
- Highly effective space creation and maintenance in the anterior chamber during IOL implantation
- Great retention during phacoemulsification
- Excellent optical clarity
- Ease of injection
- Fast and easy removal

ZEISS provides a wide range of innovative ophthalmic viscosurgical devices that fully support the surgical workflow – giving you the choice to select the OVD that best matches each individual ophthalmic case.
ZEISS provides two different OVDs to coat the delicate ocular tissues giving you the freedom to choose between a moderate and a comprehensive solution.

**Z-CELCOAT**
Low-viscosity dispersive OVD (HPMC) – providing protection in surgery
- Protection of the endothelium through coated ocular tissues during various surgical maneuvers
- Good space partition
- Well suited as lubricant for intraocular lenses and instruments
- Available in large volume syringe (2.1 ml)
- Multipack option (pack of 10 pc)

**Z-HYALCOAT**
Medium-viscosity dispersive OVD – a safeguard in surgery
- Reliable protection of the endothelium during various surgical maneuvers
- Great space partition
- Excellent optical clarity
- Short aspiration time
- Available in large volume syringe (0.85 ml)
- Multipack option (pack of 10 pc)

**Z-HYALIN, Z-HYALIN plus & Z-HYALON**
Viscous-cohesive OVDs – with versatility and ease of space maintenance in surgery
- Varying effectiveness of space creation and maintenance in the anterior chamber as a result of increases in molecular weight (see table on page 10, Zero-shear viscosity)
- Good to very good capsular bag inflation
- Optimal chamber retention
- Smooth injection
- Fast and easy removal
- Available in high volume syringes (1ml, 1ml, 0.55ml / 0.85 ml)
- Multipack option (pack of 10 pc)

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Low-viscosity dispersive OVD (HPMC) – providing protection in surgery
- Protection of the endothelium through coated ocular tissues during various surgical maneuvers
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- Excellent optical clarity
- Short aspiration time
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- Multipack option (pack of 10 pc)

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- Good to very good capsular bag inflation
- Optimal chamber retention
- Smooth injection
- Fast and easy removal
- Available in high volume syringes (1ml, 1ml, 0.55ml / 0.85 ml)
- Multipack option (pack of 10 pc)

ZEISS offers different levels of viscous-cohesive OVDs with increasing viscosity and subsequently varying space creation and maintenance. This product range allows you to pick the best fit for your surgical and patient needs.
## General Information

<table>
<thead>
<tr>
<th>Product name</th>
<th>Classification</th>
<th>Singlepack content</th>
<th>Multipack content</th>
<th>Origin</th>
<th>Volume (ml)</th>
<th>Substance</th>
<th>Concentration I (%)</th>
<th>Concentration II (mg/ml)</th>
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<td>VISTHESIA 1.0%</td>
<td>Viscous-cohesive</td>
<td>1 x intracameral syringe 1 x 27 G cannula 2 x topical ampules (see below*)</td>
<td>–</td>
<td>Bacterial fermentation</td>
<td>0.8</td>
<td>Sodium Hyaluronate</td>
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<td>Sodium Hyaluronate</td>
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<td>Sodium Hyaluronate</td>
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<td>15</td>
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Technical Information

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<th>Product name</th>
<th>Molecular weight (megadalton)</th>
<th>Zero-shear viscosity (Pa s)</th>
<th>CDI</th>
<th>Pseudo-plasticity</th>
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<td>2.9</td>
<td>72</td>
<td>39</td>
<td>75</td>
<td>280–330</td>
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All OVDs are latex and phthalate free and have a pH range between 6.8 and 7.6.

The shelf life for all OVDs is 3 years except for TWINVISC, which has a shelf life of 2 years.

“...The combination of complementary dispersive and cohesive products, the use of a single syringe and the innovative Bypass system of TWINVISC offer a performing, protecting and easy to use OVD for the surgeon, whatever the surgical technique and the incision size." 

Dr. Thierry AMZALLAG, MD
Somain, France, Ophthalmic Institute of Somain