ZEISS OVDs
Engineered for simplicity
ZEISS OVDs
Peace of mind included

Ophthalmic viscosurgical devices (OVDs) are extremely important in determining the success of cataract surgery. However, there are other crucial aspects that you need to focus on during surgery. ZEISS OVDs are developed to support you at each step of the cataract procedure so you will never have to give them a second thought.

Engineered for simplicity

- ZEISS OVDs are the result of more than 20 years of experience in the development and production of unique OVDs with the excellent quality standard associated with ZEISS.

- As ZEISS OVDs and IOL technology come from one experienced source, the products are perfectly aligned with one another.

- ZEISS OVDs originate exclusively from patented continuous biofermentation and are therefore not based on animal tissue.

We respect nature. Our OVDs do not contain animal tissue.
Modern OVDs from ZEISS for all requirements
From standard to premium viscosurgical tools

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

The ZEISS OVD portfolio includes:
- unique OVDs such as the first and only viscoanesthetic: VISTHESIA®,
- premium double OVDs in one device: TWINVISC® or in two separate syringes: COMBIVISC®,
- high-viscosity cohesive OVDs: Z-HYALIN®, Z-HYALIN® plus,
- low-viscosity dispersive OVDs: Z-HYALCOAT® and Z-CELCOAT®.

ZEISS also provides OVDs in multipacks, in addition to single packs. ZEISS MULTIPACK saves space, costs and waste.

ZEISS OVDs available in
10 syringe multipacks
- Z-HYALIN
- Z-HYALIN plus
- Z-HYALCOAT
- Z-CELCOAT
and in 5 procedures multipacks
- COMBIVISC
VISTHESIA

The pain relief OVD

The first and only OVD that offers an ancillary anaesthetic and an ophthalmic viscoelastic combined; providing more comfort for your patient, especially during prolonged procedures.

**VISTHESIA Topical**
- The ancillary lidocaine ensures comfort for the patient at the start of surgery
- The preoperative topical application with sodium hyaluronate
  - coats and hydrates the epithelial cells, to support clear vision into the eye
  - minimizes the need for additional hydration during surgery

**VISTHESIA Intracameral cohesive OVD**
- Maintains anterior chamber space
- Provides endothelial protection\(^1\) and pupil dilation\(^2\) for routine or complex cataract cases
- Ensures even dispersion of lidocaine throughout the eye to all tissue
- Precise delivery of 1% lidocaine combined into one step saves time and preparation of a separate intracameral anesthetic

Z-HYALIN / Z-HYALIN plus

The all-round cohesive OVDs

These high-viscosity OVDs are designed to meet all expectations for every type of cataract surgery.

- Ease of use in any case
- Flexibility of a high volume syringe (1.0 ml)
- Good endothelium protection
- Highly effective in space creation
- Optimal chamber retention
- Good capsular bag inflation
- Fast and easy removal


TWINVISC
Two OVDs, one device

TWINVISC is an ophthalmic viscosurgical device that combines two viscoelastic solutions in a single syringe, one dispersive and one cohesive, with complementary and synergistic properties, separated by an innovative Bypass stopper system.

- Easy injection of the dispersive and cohesive viscoelastic solutions in sequence
- Creation and maintenance of volume in the anterior segment during capsulorhexis and implantation
- Clear view at every stage
- Protection of the endothelium and other tissue during the various maneuvers and use of ultrasound
- Quick and easy removal

COMBIVISC
The perfect match of two OVD concepts

The optimal combination of a dispersive and cohesive OVD in two separate syringes to match the requirements at each stage of the cataract surgery. Giving you the space you need and clear vision to operate, with fast removal.

Dispersive
- Reliable endothelium protection
- Excellent optical clarity
- Good space partition
- Short aspiration time
- Contains Z-HYALCOAT

Cohesive
- Highly effective in space creation
- Optimal chamber retention
- Good capsular bag inflation
- Fast and easy removal
- Contains Z-HYALIN plus

---

3 Hütz et al.: Comparison of viscoelastic substances used in phacoemulsification. JCRS Vol 22, Sept. 1996
## ZEISS OVDs

Engineered for simplicity

<table>
<thead>
<tr>
<th></th>
<th>VISTHESIA 1.5%</th>
<th>VISTHESIA 1.0%</th>
<th>TWINVISC</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Topical ampules</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Origin</strong></td>
<td>Bacterial fermentation</td>
<td>Bacterial fermentation</td>
<td>–</td>
</tr>
<tr>
<td><strong>Substance</strong></td>
<td>Sodium Hyaluronate (NaHA)</td>
<td>Sodium Hyaluronate (NaHA)</td>
<td>–</td>
</tr>
<tr>
<td><strong>Concentration</strong></td>
<td>0.3% NaHA, 2.0% lidocaine</td>
<td>0.3% NaHA, 2.0% lidocaine</td>
<td>–</td>
</tr>
<tr>
<td><strong>Volume</strong></td>
<td>2 ampules of 0.3 ml</td>
<td>2 ampules of 0.3 ml</td>
<td>–</td>
</tr>
<tr>
<td><strong>Behavior</strong></td>
<td>Cohesive</td>
<td>Cohesive</td>
<td>Dispersive</td>
</tr>
<tr>
<td><strong>Origin</strong></td>
<td>Bacterial fermentation</td>
<td>Bacterial fermentation</td>
<td>Bacterial fermentation</td>
</tr>
<tr>
<td><strong>Substance</strong></td>
<td>Sodium Hyaluronate (NaHA)</td>
<td>Sodium Hyaluronate (NaHA)</td>
<td>Sodium Hyaluronate (NaHA)</td>
</tr>
<tr>
<td><strong>Concentration</strong></td>
<td>1.5% NaHA, 1.0% lidocaine</td>
<td>1.0% NaHA, 1.0% lidocaine</td>
<td>2.2% NaHA</td>
</tr>
<tr>
<td><strong>Volume</strong></td>
<td>1 syringe of 0.8 ml</td>
<td>1 syringe of 0.8 ml</td>
<td>0.7 ml</td>
</tr>
<tr>
<td><strong>pH</strong></td>
<td>6.8 – 7.6</td>
<td>6.8 – 7.6</td>
<td>6.8 – 7.6</td>
</tr>
<tr>
<td><strong>Osmolality (mOsmol/kg)</strong></td>
<td>280 – 330</td>
<td>280 – 330</td>
<td>300 – 360</td>
</tr>
<tr>
<td><strong>Molecular weight (Da)</strong></td>
<td>Avg. 2,900,000</td>
<td>Avg. 2,900,000</td>
<td>Avg. 1,000,000</td>
</tr>
<tr>
<td><strong>Pseudoplasticity Index</strong></td>
<td>Avg. 80</td>
<td>58</td>
<td>13</td>
</tr>
<tr>
<td><strong>Zero-Shear Viscosity (mPa.s)</strong></td>
<td>Avg. 187,000</td>
<td>Avg. 63,000</td>
<td>Avg. 30,000</td>
</tr>
<tr>
<td><strong>CDI</strong></td>
<td>–</td>
<td>–</td>
<td>25</td>
</tr>
<tr>
<td><strong>Cannula</strong></td>
<td>27 G</td>
<td>27 G</td>
<td>25 G</td>
</tr>
<tr>
<td><strong>Storage</strong></td>
<td>2 – 8°C</td>
<td>2 – 8°C</td>
<td>2 – 8°C</td>
</tr>
<tr>
<td><strong>Box content</strong></td>
<td>1 × intracameral syringe, 2 × topical ampules, 1 × 27 G cannula</td>
<td>1 × two-chamber syringe, 1 × 25 G cannula</td>
<td></td>
</tr>
</tbody>
</table>

* *The molecular weights are derived from intrinsic viscosity according to the Mark Houwink equation.*

**VISTHESIA 1.5 % and VISTHESIA 1.0 % are not for sale in the UK and Portugal.**

Please ask our sales representative for information about VISTHESIA 1.5 % intra and VISTHESIA 1.0 % intra.
<table>
<thead>
<tr>
<th>COMBIVISC</th>
<th>Z-HYALIN plus</th>
<th>Z-HYALIN</th>
<th>Z-HYALCOAT</th>
<th>Z-CELCOAT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Double viscosity OVD</td>
<td>Intracameral syringe</td>
<td>Intracameral syringe</td>
<td>Intracameral syringe</td>
<td>Intracameral syringe</td>
</tr>
<tr>
<td>Cohesive</td>
<td>Dispersive</td>
<td>Cohesive</td>
<td>Cohesive</td>
<td>Dispersive</td>
</tr>
<tr>
<td>Bacterial fermentation</td>
<td>Bacterial fermentation</td>
<td>Bacterial fermentation</td>
<td>Bacterial fermentation</td>
<td>Bacterial fermentation</td>
</tr>
<tr>
<td>Sodium Hyaluronate (NaHA)</td>
<td>Sodium Hyaluronate (NaHA)</td>
<td>Sodium Hyaluronate (NaHA)</td>
<td>Sodium Hyaluronate (NaHA)</td>
<td>Sodium Hyaluronate (NaHA)</td>
</tr>
<tr>
<td>1.5% NaHA</td>
<td>3.0% NaHA</td>
<td>1.5% NaHA</td>
<td>1.0% NaHA</td>
<td>3.0% NaHA</td>
</tr>
<tr>
<td>1.0 ml</td>
<td>0.85 ml</td>
<td>1 syringe of 1.0 ml</td>
<td>1 syringe of 1.0 ml</td>
<td>1 syringe of 0.85 ml</td>
</tr>
<tr>
<td>6.8 – 7.6</td>
<td>6.8 – 7.6</td>
<td>6.8 – 7.6</td>
<td>6.8 – 7.6</td>
<td>6.8 – 7.6</td>
</tr>
<tr>
<td>300 – 360</td>
<td>300 – 360</td>
<td>300 – 360</td>
<td>300 – 350</td>
<td>300 – 360</td>
</tr>
<tr>
<td>Avg. 2,900,000</td>
<td>Avg. 1,000,000</td>
<td>Avg. 2,900,000</td>
<td>Avg. 2,900,000</td>
<td>Avg. 1,000,000</td>
</tr>
<tr>
<td>91</td>
<td>15</td>
<td>91</td>
<td>50</td>
<td>15</td>
</tr>
<tr>
<td>Avg. 250,000</td>
<td>Avg. 67,000</td>
<td>Avg. 250,000</td>
<td>Avg. 50,000</td>
<td>Avg. 67,000</td>
</tr>
<tr>
<td>42</td>
<td>15</td>
<td>42</td>
<td>60</td>
<td>15</td>
</tr>
<tr>
<td>27 G</td>
<td>25 G</td>
<td>27 G</td>
<td>27 G</td>
<td>25 G</td>
</tr>
</tbody>
</table>
The contents of the brochure may differ from the current status of approval of the product in your country. Please contact your local representative for more information. Subject to change in design and scope of delivery and as a result of ongoing technical development.

VISTHESIA, TWINVISC, Z-HYALIN, Z-HYALCOAT, COMBIVISC and Z-CELCOAT are registered trademarks of Carl Zeiss Meditec.

Printed on elemental chlorine-free bleached paper. © 2015 by Carl Zeiss Meditec AG. All copyrights reserved.

Carl Zeiss Meditec AG
Goeschwitzer Str. 51–52
07745 Jena
Germany
www.zeiss.com/ovd
www.zeiss.com/contacts

Hyaltech Ltd.
Starlaw Business Park
Livingston EH54 8SF
United Kingdom
www.zeiss.com/ovd
www.zeiss.com/contacts

Carl Zeiss Meditec AG
Goeschwitzer Str. 51–52
07745 Jena
Germany
www.zeiss.com/ovd
www.zeiss.com/contacts