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enjoy surgery

OS 4 Up™

Great surgery starts with the right feeling

EYE SURGERY. SWISS MADE.

Making the difference in eye surgery

Since 1955, Oertli has been setting new standards in eye surgery. As a Swiss family-managed company, we focus on what counts: superior quality, outstanding services and pioneering innovations tailored to the needs of our customers.

Driven by our purpose to preserve eyesight worldwide, we make the difference for surgeons and their patients. By focusing on the real needs of the OR, we develop and manufacture surgical platforms, instruments, and consumables that enable surgeons and OR personnel to perform cataract, glaucoma, and vitreoretinal surgeries safe, easy, and efficient.

The OS 4 Up™ represents the latest milestone in our ongoing development. Surgeons and surgical teams spend countless hours in the operating theatre, so we believe great surgery starts with the right feeling. Let's enjoy surgery with the new OS 4 Up™.

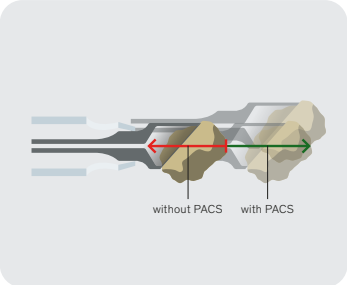
Christoph Bosshard
Co-CEO

Thomas Bosshard
Co-CEO

Your OS 4 Up™ journey begins now

Ready to enjoy surgery?

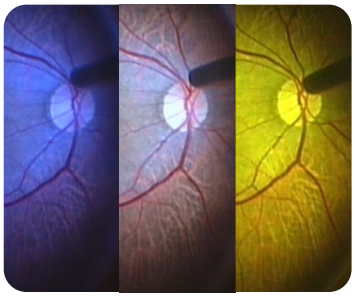
Dynamic infusion: Adaptive IOP management
Dynamic infusion extends traditional passive and active infusion through adaptive IOP management. Discover how it compensates for intraocular pressure changes, helping keep IOP settings near physiological levels*.



PACS: Adaptive phaco control
Phaco Assisted Cataract Surgery (PACS) extends classic phaco modulations with adaptive control. By detecting resistance at the phaco tip and adjusting energy delivery in real time, it contributes to precise, controlled and efficient work under stable chamber conditions*.

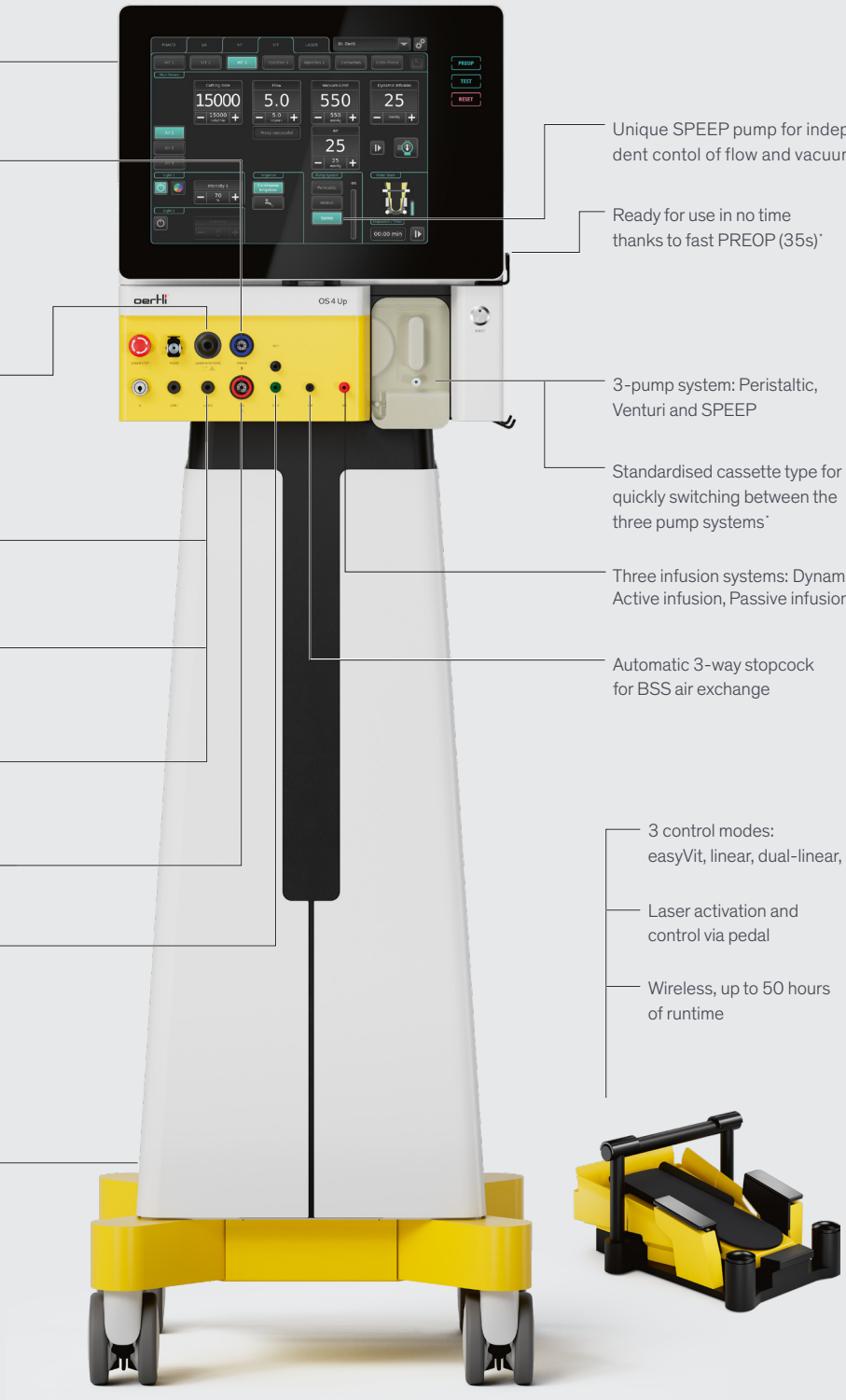
Smooth trocar placement
The new Caliburn Trocar System is designed around the key elements of smooth trocar placement. From bevelled cannula design to tactile orientation and integrated handling features, every detail works together so you can enjoy surgery.

Constant flow for fast vitreous removal
The Continuous Flow Cutter ensures continuous aspiration thanks to its permanently open port and up to 15'000 cpm, resulting in reduced traction on the retina*.



See finest structures with Power LED Plus
With Power LED Plus, you can individually adjust both colour spectrum and light intensity to reveal even the finest tissue structures. Mix yellow and blue as desired to achieve high-resolution contrast viewing*.

OS 4 Up™ at a glance



Intuitive pedal control defined by you

With easyVit, linear and dual-linear modes, the multifunction pedal supports intuitive control and can be tailored to your preferred way of working.

Laser integration
OS 4 Up is available with an integrated endolaser that can be operated via the multifunction pedal, which also serves as a laser pedal for fast availability and convenient control*.

Advantages of the multifunction pedal*

→ Three selectable control modes: easyVit, linear and dual-linear
→ Integrated endolaser operable via the multifunction pedal
→ Wireless, up to 50 hours runtime without recharging
→ Over 100 individual configuration options
→ Store up to 50 user profiles

easyVit control for Pars Plana vitrectomy
easyVit is a new pedal control mode for vitreoretinal surgery. It combines aspiration and cut rate in a single linear pedal movement, so planned PPV phases, from core vitrectomy to shaving on attached or detached retina, can be performed without changing programs*.

Master fluidics with a three pump system

The OS 4 Up combines three pump systems on a single platform: Peristaltic, Venturi and SPEEP. This gives surgeons the flexibility to choose the fluidics principle that best matches their preferred technique.

Unique SPEEP pump: Control flow and vacuum
The SPEEP pump combines the advantages of a flow-controlled peristaltic pump with the dynamics of a vacuum-controlled Venturi pump. Flow and vacuum can be controlled independently. This allows you to attract, precisely manipulate, and aspirate fragments and tissue, providing full aspiration control in free-flow and under occlusion*.

Peristaltic pump: Control over linear flow
The peristaltic pump is flow-based, and though it can be finely tuned, the vacuum can only be built up by occlusion up to the preset limit. The higher the flow, the more speed you will have in the eye.

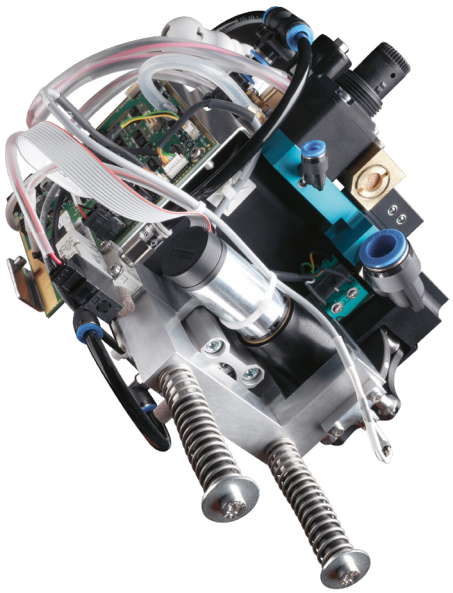
Venturi pump: Control the vacuum
The Venturi pump is vacuum-based. The vacuum builds quickly and is adjustable, but the flow is not directly controllable. The higher the power, the more speed you will have in the eye, the same effect as a vacuum cleaner.

Advantages of the 3-pump system*

→ 3-pump system: peristaltic, Venturi and SPEEP

→ Standardised cassette type for quickly switching between the three pump systems

→ Unique SPEEP pump:
- Independent control of flow and vacuum
- Full aspiration control in free-flow and under occlusion
- Manual control of holdability for precise manoeuvres, regardless of tissue type

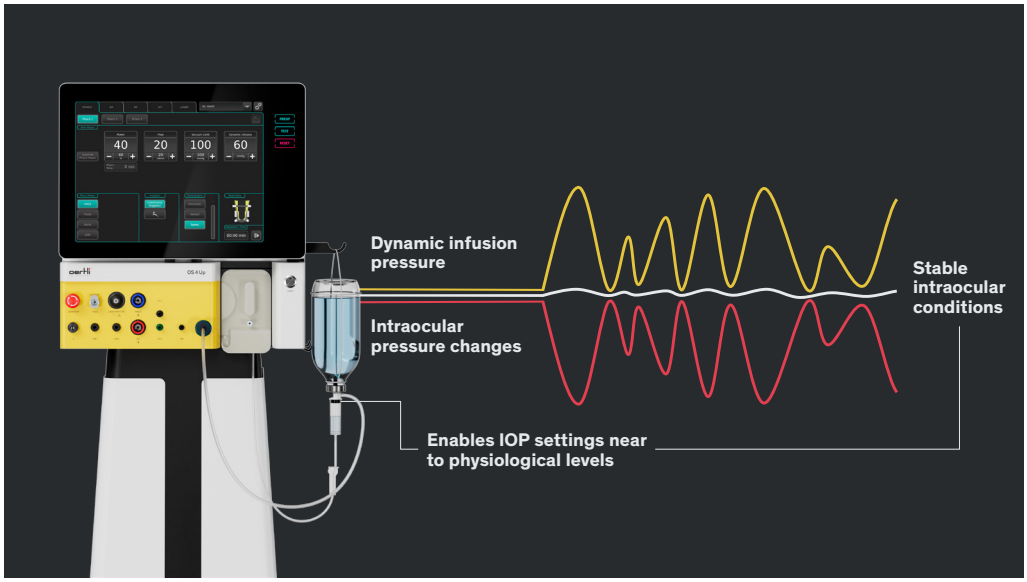


Choose between three infusion systems

The OS 4 Up offers three infusion systems: gravity-controlled Passive infusion, air-driven Active infusion, and Dynamic infusion. Each system uses a different fluidics principle to support IOP management during anterior and posterior segment procedures.

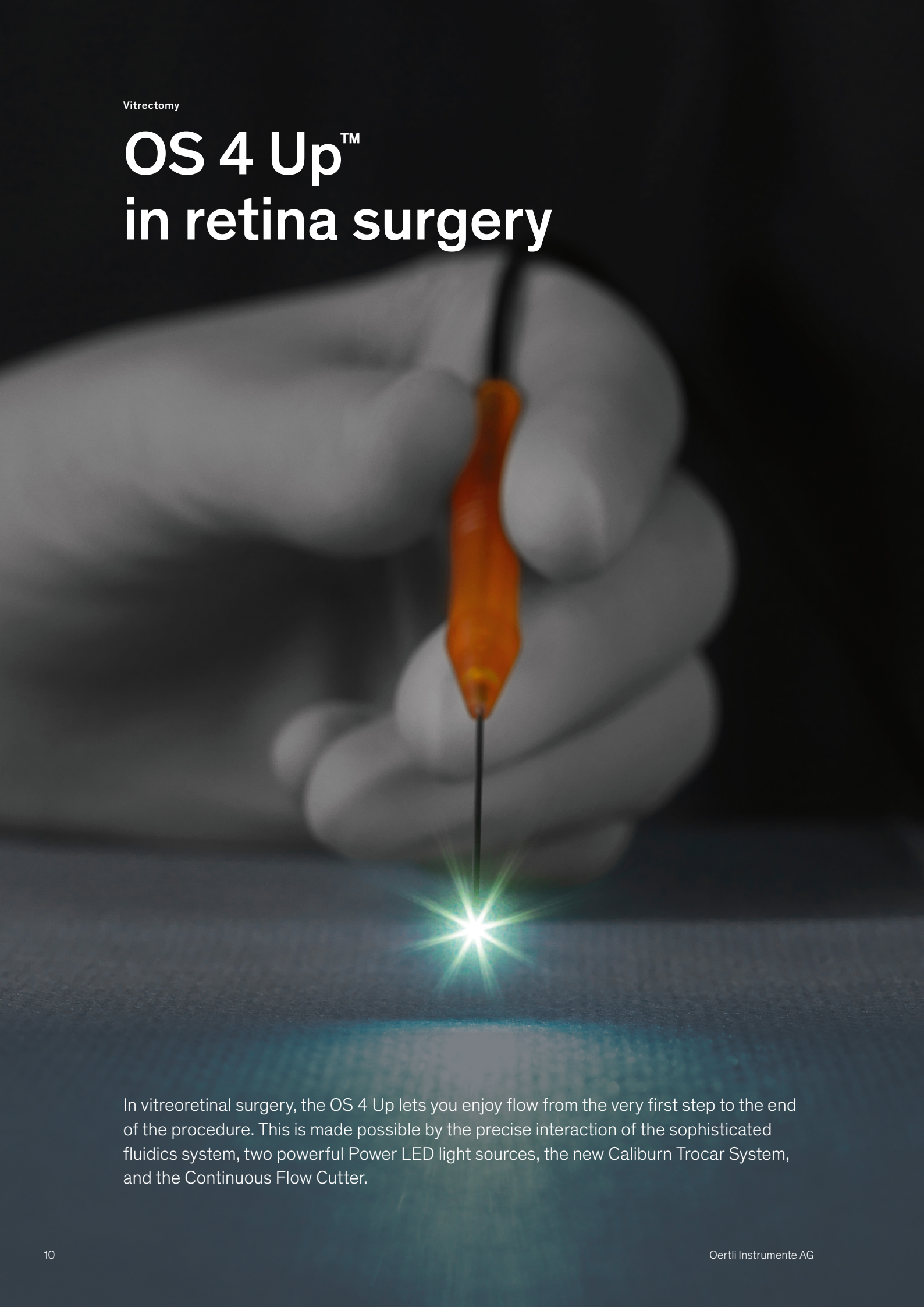
Maintain IOP with Dynamic Infusion

Dynamic infusion: Adaptive IOP management
During surgery, intraocular pressure can change continuously. Dynamic infusion extends traditional passive and active infusion through adaptive IOP management. It compensates intraocular pressure changes and allows IOP settings near physiological levels while maintaining stability within the eye, even at high flow and vacuum settings*.



The OS 4 Up monitors pressure changes (red line) and applies dynamic infusion pressure (yellow line) to achieve stable intraocular conditions (white line).

OS 4 Up™ in retina surgery



In vitreoretinal surgery, the OS 4 Up lets you enjoy flow from the very first step to the end of the procedure. This is made possible by the precise interaction of the sophisticated fluidics system, two powerful Power LED light sources, the new Caliburn Trocar System, and the Continuous Flow Cutter.

Smooth trocar placement

Factors that shape smooth trocar placement

The sharp, lance-shaped blade provides high cutting force into the sclera. Combined with the bevelled design of the trocar cannula, blade and cannula glide through the tissue in one seamless motion. This enables smooth insertion with up to 43 % less penetration force*[1].

The knife and bevelled cannula are precisely aligned to support accurate insertion into the sclera. Clear tactile markings on the handle let you immediately feel the correct orientation, eliminating the need for additional visual control under the microscope*.

The integrated self-sealing membrane with a 4-flap concept adds further functionality. It maintains IOP by preventing leakage of BSS, air, or oil, supports smooth instrument insertion, and can be easily removed and reinserted*.

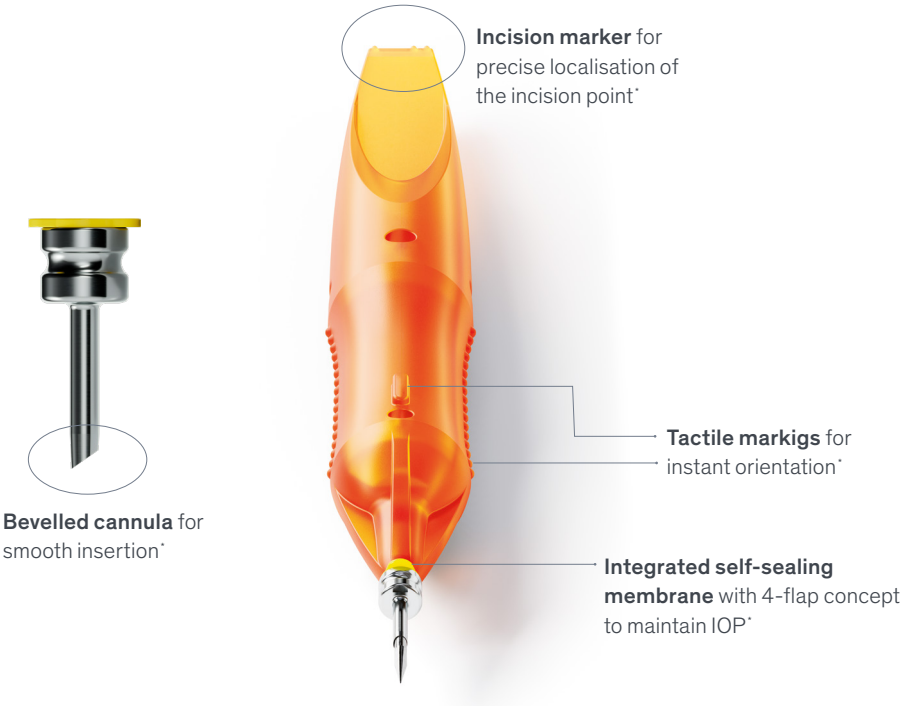
Advantages of the Caliburn Trocar System*[2]

→ High cutting force into the sclera thanks to the sharp, lance-shaped blade

→ Bevelled cannula design for up to 43 % less penetration force

→ Tactile markings on the handle for instant orientation of the knife and bevelled cannula

→ New packaging and product design reduce waste per trocar set by 30 %



Double light source

Colour-adjustable illumination

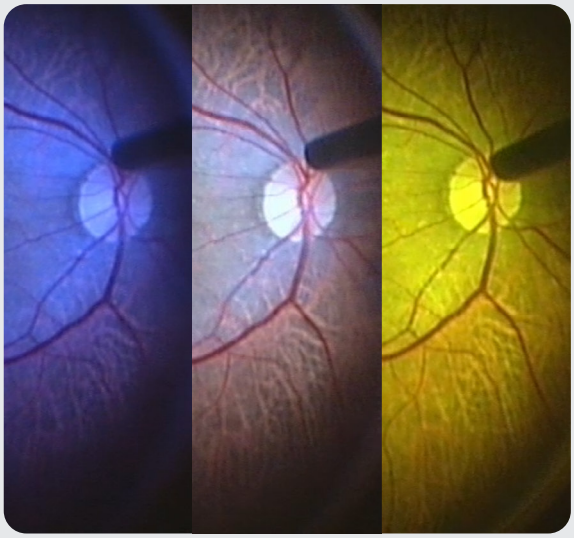
Seeing what others might miss

The OS 4 Up features two powerful LED light sources, allowing posterior segment illumination to be tailored to personal preferences and a wide range of surgical situations.

Control the light intensity
Whether you work with a 3D or standard microscope, the wide control range lets you adapt light intensity to your setup, while phototoxic exposure can be reduced through low-light settings*.

Advantages of the double light source*

→ Double light source with powerful LED technology
→ Yellow and blue can be mixed as desired
→ Independent control of light intensity and colour spectrum
→ Wide control range of light intensity for use with both 3D and standard microscopes
→ Three individual colour settings accessible via pedal



See finest structures with Power LED Plus

With Power LED Plus, you can individually adjust both colour spectrum and light intensity to reveal even the finest tissue structures. Mix yellow and blue as desired to achieve high-resolution contrast viewing*.

Continuous flow for fast vitreous removal

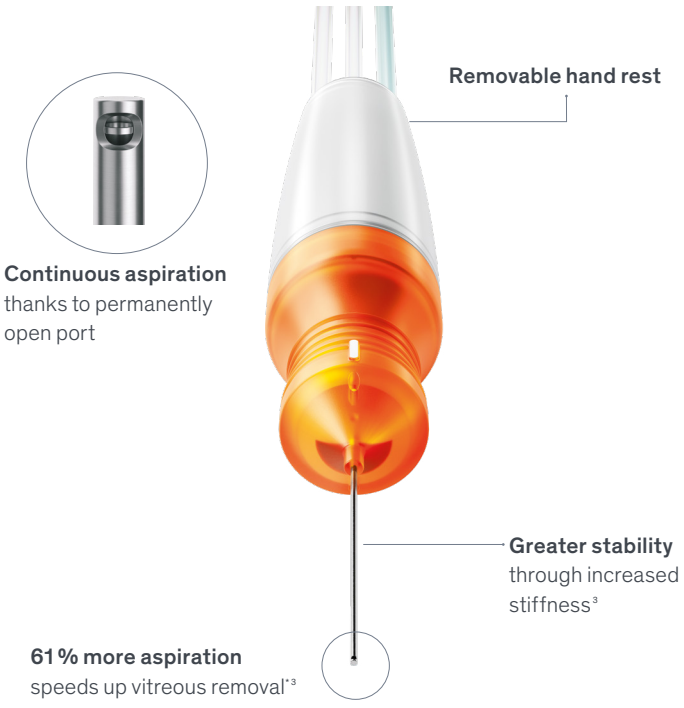
When flow and stability work together

The new Continuous Flow Cutter transforms your surgical routine with powerful performance. From continuous aspiration and effective cut rates of up to 15,000 cpm to improved stability, it delivers all key factors to enjoy flow from start to finish*.

Cut rates with up to 15,000 cpm
Unlike conventional guillotine cutters, the Continuous Flow Cutter operates without alternating opening cycles. This makes the duty cycle obsolete, as the port remains permanently open. A 0.1 mm narrow, double-edged blade cuts both forwards and backwards, doubling the removal of vitreous portions per cycle. Additionally, with a minimal distance of 0.18 mm (27G) between the port opening and the surface, the cutter also allows work close to the tissue*.

Advantages of the Continuous Flow Cutter[3]

- → Significantly increased aspiration accelerates vitreous removal
- → Permanently open port generates less traction on the retina
- → 15,000 cpm with the OS 4 Up
- → Increased stiffness improves stability
- → Minimal distance from port opening to surface enables cutting close to the tissue



Broad laser options for your individual needs

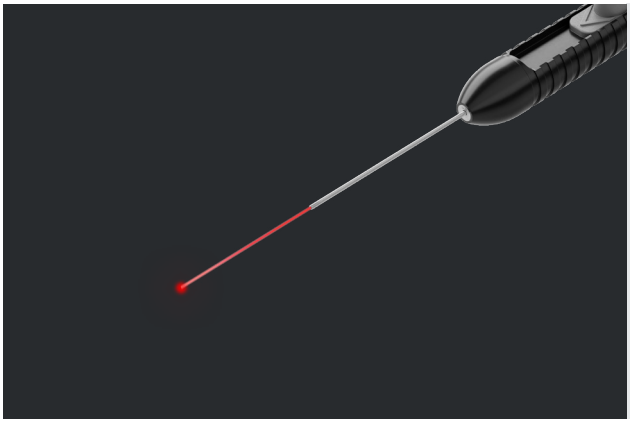
Integrated endolaser for easy workflow

The OS 4 Up features an integrated 532 nm endolaser that can be tailored to your requirements. Benefit from reliable protection with the optional laser protection filter, and enjoy added convenience with the adjustable laser aiming beam*.

Clear acoustic guidance
The OS 4 Up offers voice confirmations in English, German, French, Italian and Spanish to support focused and independent work. In addition, an optional acoustic warning can be activated during laser emission.

Advantages of the integrated endolaser*

→ Fully integrated 532 nm endolaser
→ Adjustable laser aiming beam intensity with nine steps
→ Expandable with a fully automatic laser protection filter
→ Laser operation via multifunction pedal
→ Extensive range of laser probes



Adjustable laser aiming beam for individual visual settings

In vitreoretinal surgery, clear orientation and precise targeting are essential during laser application. The OS 4 Up meets this requirement with an adjustable laser aiming beam, allowing light intensity to be set in nine steps. This enables adaptation to different microscope systems, including standard and 3D visualisation, as well as to individual working preferences*.

Efficient silicone oil exchange

Two types, one goal: efficient injection and extraction

The Oertli silicone application sets enable rapid injection and extraction of silicone oil. Two types of visco cannula are available for trocar-based application: the universal cannula and the snap-lock cannula.

While the universal visco cannula is held manually, the snap-lock visco cannula locks directly into the trocar thanks to its integrated mechanism*.

Thanks to the snap-lock adapter, pre-filled silicone oil syringes made of glass[4] can also be used. There is no need for decanting, valuable time is saved, and the process is noticeably simplified for the surgical team.

Advantages of the silicone oil applicaton set[*4]

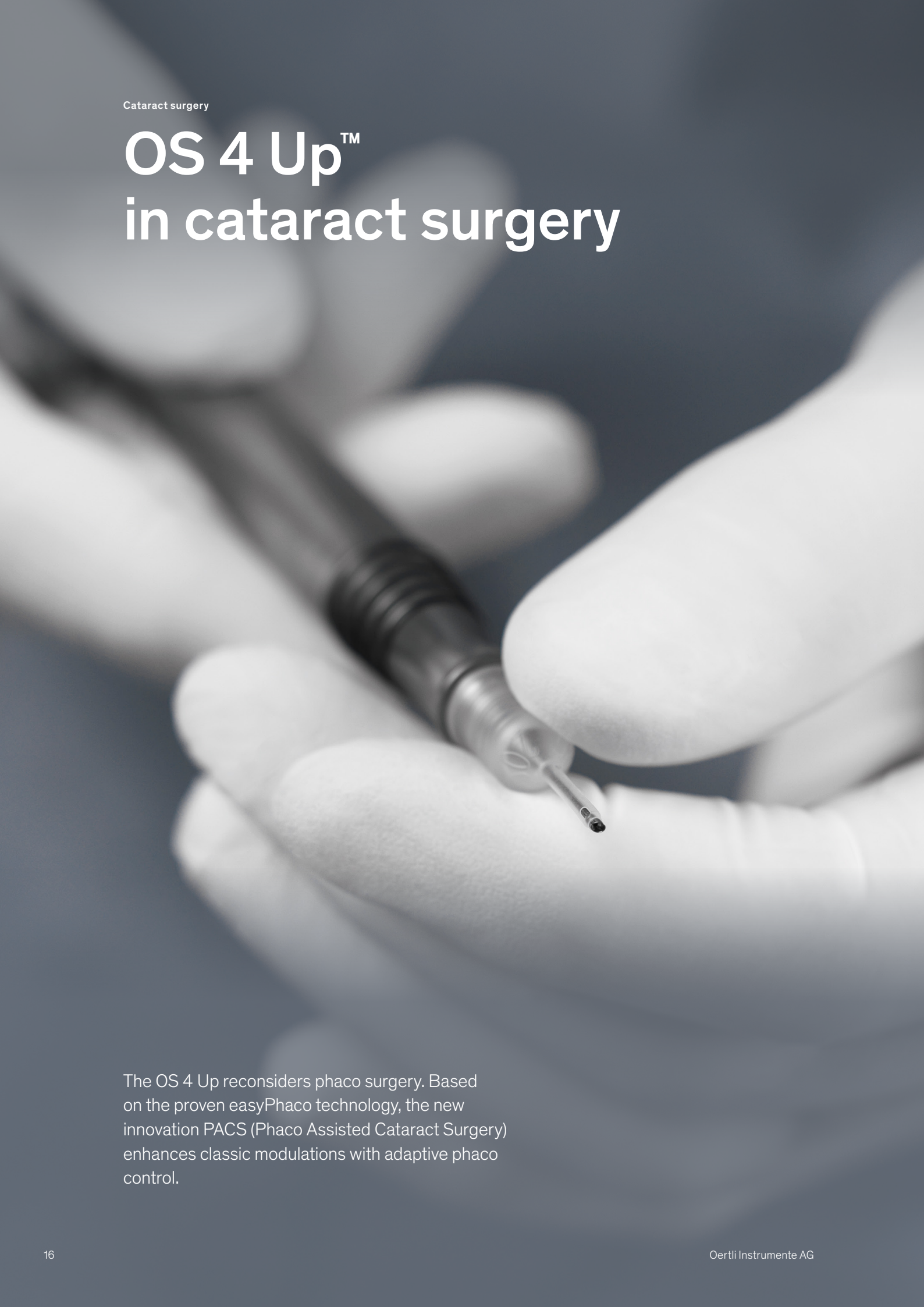
→ Fast injection and extraction

→ Two types: snap-lock and universal cannulas for all gauge sizes (23G, 25G, 27G)

→ A snap-lock cannula ensures a temporary mechanical connection to the trocar

→ Also suitable for pre-filled silicone oil syringes

OS 4 Up™ in cataract surgery



The OS 4 Up reconsiders phaco surgery. Based on the proven easyPhaco technology, the new innovation PACS (Phaco Assisted Cataract Surgery) enhances classic modulations with adaptive phaco control.

Versatile options for I/A and diathermy

I / A with Safety Design

The Quick Tips with Safety Design feature an long shaft for subincisional access. The small aspiration port results in rapid occludability and ensures a stable anterior chamber. The well-considered position of the aspiration port is intended to prevent unintended grasping of the capsular bag.

Advantages of I / A with Safety Design

→ Developed to ensure stable anterior chamber conditions
→ Long shaft for subincisional access
→ Rapid occludability
→ Ideal when combined with the SPEEP pump
→ Available from 1.6 mm to 2.8 mm

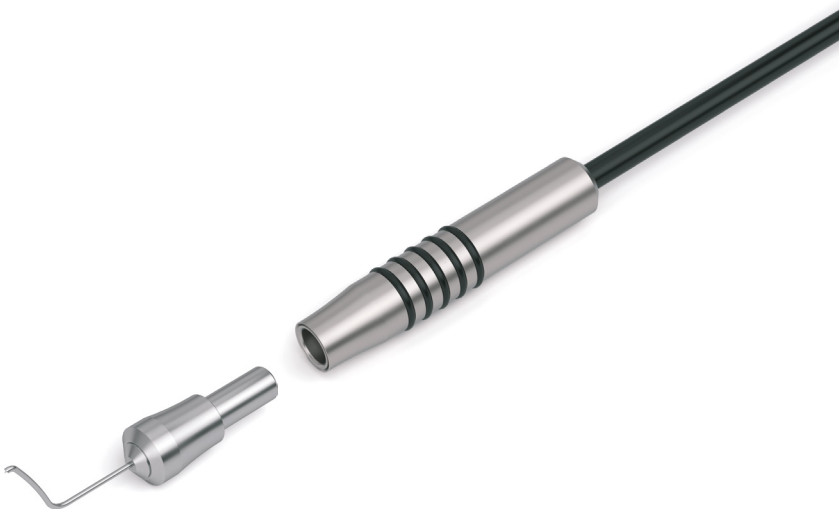
Bipolar diathermy

The bipolar diathermy function offers a number of applications such as the diathermy tip and forceps, the unique capsulotomy, and the HFDS procedure for MIGS surgery.

High-frequency capsulotomy
The capsular bag can be cut open using high-frequency energy – entirely without the usual tearing by forceps or needles. It is sufficient to gently slide the capsulotomy tip over the tissue, even under the iris, while applying the diathermy energy*.

Advantages of bipolar diathermy*

→ One function for different applications: diathermy tip and forceps, capsulotomy, HFDS procedure
→ Simple plug-in system between the handpiece and the tips
→ High-quality titanium finish
→ Fine and controlled dosing of HF energy

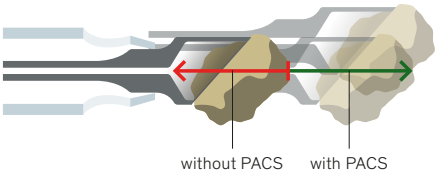


PACS: Adaptive phaco control

Flexible phaco modulations

The OS 4 Up offers four phaco modulations for energy delivery: Continuous, Pulse, Burst and PACS. While conventional phaco modes are controlled via pedal deflection, Phaco Assisted Cataract Surgery (PACS) takes a further step by adaptively regulating phaco tip movement.

PACS works like cuise control
When dense lens material is present at the tip opening, the natural resistance of the material slows down the phaco tip's motion. Without PACS, the surgeon must manually increase energy delivery via the pedal to compensate. PACS, however, automatically detects when dense material is restricting tip movement and adjusts energy delivery in real time. This keeps the longitudinal movement of the phaco tip constant – regardless of lens density.



Access to low power ranges
PACS combines an adaptive control principle with finely dosed energy delivery in the low power range. This contributes to efficient, precise work under stable chamber conditions with controlled holdability*.

Advantages of PACS*

→ Contributes to precise, controlled, and efficient work under stable chamber conditions
→ Adaptive control of the phaco tip, similar to cruise control
→ Finely dosed emulsification with controlled holdability in the low power range
→ Compatible with the existing Oertli easyPhaco portfolio

Why PACS stands out

«Reducing phaco energy, especially in the first steps of the phaco is a very important thing to have better results or less impact on the eye during surgery. For me, PACS is the most significant improvement of the OS 4 Up in the anterior segment surgery °.»

Dr Karl Boden
Eye Clinic Sulzbach, Germany

easyPhaco: Fluidics based on physics

Connecting skills with technology

The easyPhaco technology is developed for safe and efficient phacoemulsification. Thanks to Oertli's unique fluidics concept, easyPhaco allows direct control over fragments and ensures a high holdability. The occluded fragments absorb the ultrasound energy and are then efficiently aspirated with no clogging. The infusion capacity is several times higher than the aspiration, enabling the intraocular pressure to be maintained for a stable anterior chamber[*5].

easyPhaco® handpiece
With an external diameter of 13 mm, an internal infusion line and a low weight of 42 grams, the titanium easyPhaco handpiece has set the standard since 2002. The handpiece has six piezo crystals. The five rubber rings on the handpiece make it comfortable to hold.

easyTips phaco tips
The angled easyTip opening has been designed to hold fragments firmly at the tip. Thanks to the high vacuum created, the fragments are efficiently aspirated. The single-use easyTips are supplied with an irrigation sleeve, a test chamber and a phaco and emergency key. The easyTip range includes six different tips: from CO-MICS (1.6 mm) up to 3.2 mm incisions*.

Advantages of easyPhaco[*5]

→ easyPhaco technology, developed for safe and efficient emulsification
→ Fragment followability and holdability thanks to the Oertli fluidics concept
→ U/S energy absorbed by the occluded fragments
→ Smooth fragment aspiration without clogging
→ Stable anterior chamber
→ Available from 1.6 mm to 3.2 mm incisions

OS 4 Up™ in glaucoma surgery

OS 4 Up offers High Frequency Deep Sclerotomy (HFDS): an implant-free, ab interno procedure for micro-invasive glaucoma surgery (MIGS) that aims to lowers intraocular pressure by reducing aqueous humour outflow resistance.

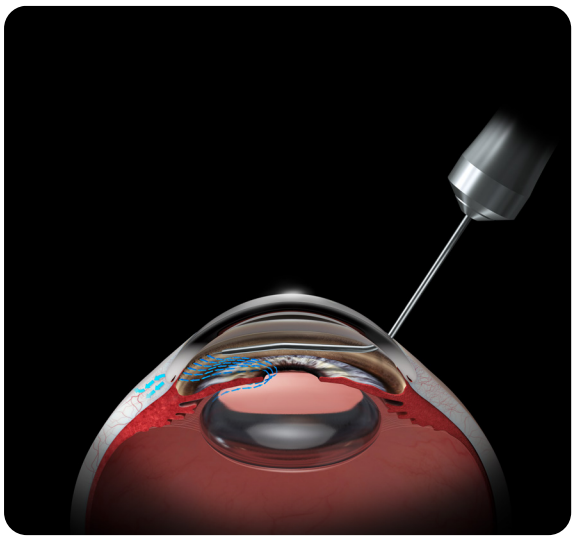
IOP Reduction.
Zero implants.

What is HFDS?

With High Frequency Deep Sclerotomy (HFDS), OS 4 Up offers an implant-free, ab interno procedure for micro-invasive glaucoma surgery (MIGS) to treat primary open-angle glaucoma.

Treating primary open-angle glaucoma
The HFDS glaucoma tip is inserted through a 1.2 mm paracentesis and uses high-frequency diathermy to create six small pockets in the iridocorneal angle. This technique aims to improve natural aqueous humour outflow and lower IOP, entirely without the need for permanent implants.

Clinical evidence
In the treatment of primary open-angle glaucoma, Oertli's HFDS ab interno MIGS technology delivers promising long-term results in reducing IOP. Clinical studies have confirmed a long-term and significant reduction in IOP over a 4-year period, together with a reduction in anti-glaucoma medications (AGMs)[6].



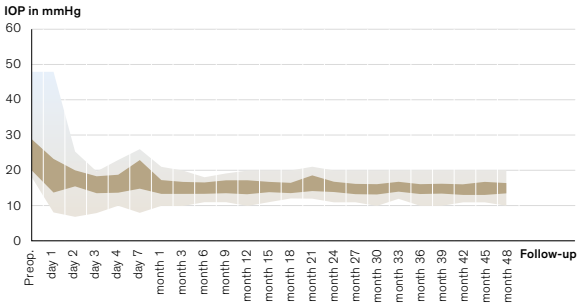
Advantages of HFDS[6]

→ Implant-free micro-invasive glaucoma surgery

→ Convincing long-term results with a stable and long-term reduction in IOP and AGM

→ In combination with cataract surgery or utilised as a stand-alone application

Long-term IOP reduction after HFDS procedure[6]



Designed for your comfort

True innovation is not just about what a system can do, but how effortlessly it lets you do it. At the heart of this experience is the 17” control panel, which stands out with high readability and a generous viewing angle. The graphical user interface is clearly structured and intuitive, allowing the OR personnel to navigate with confidence. With the OS 4 Up efficiency begins the moment you start: the system is ready for use in under 30 seconds, ensuring a consistent surgical workflow*.

Voice confirmation in 5 languages
To support a focused and independent workflow, the OS 4 Up provides voice confirmation in five languages (English, German, French, Italian, and Spanish)*.

Integrated time management
The OS 4 Up offers both a timer and a stopwatch, allowing you to keep defined time limits in view and track the duration of individual surgical steps or entire procedures*.

Easy handling during OR setup
The low-positioned GFI suspension makes handling the infusion set, BSS bottle, and sterile cover effortless. It allows OR staff to temporarily place the infusion set during OR setup.


enjoy
surgery
The
OS 4 Up™

OS 4 Up™ performance spectrum

System

Fluidics system

→ Peristaltic pump
→ Venturi pump
→ SPEEP pump
→ Gravity infusion, electric pole drive
→ Active infusion (GFI)
→ Dynamic infusion
→ Continuous irrigation
→ Tubing system with integrated closed pressure sensor
→ Auto venting
→ Limitable reflux
→ Selectable pre-op, self-test and reset functions

Operation

→ 17" control panel with generous viewing angle*
→ Ready for use in under 30 seconds*
→ Audio signals
→ Voice confirmations in five languages
→ Program memories with DirectAccess
→ Integrated stopwatch and timer

Pedal

→ 3 control modes: easyVit, linear, dual-linear
→ Wireless
→ Integrated laser control
→ Over 100 pedal assignments
→ Rest position

Anterior segment

HF function

→ Capsulotomy
→ HFDS MIGS glaucoma surgery
→ Endo-diathermy
→ Conjunctiva coaptation
→ Macro-diathermy

Phaco function

→ Ultrasound phaco with auto tuning
→ Vacuum override function
→ Phaco power override function
→ Occlusion mode
→ easyPhaco handpiece with six piezo crystals
→ PACS, Continuous, Pulse, Burst
→ easyPhaco, CO-MICS and MICS technology

I / A function

→ Vacuum override function

Anterior segment vitrectomy

→ Up to 15,000 cpm
→ Flexible changeover between Aspiration / Cut and Cut / Aspiration

Posterior segment

Endo Illumination

→ Two independent Power LED light sources
→ Wide control range of light intensity
→ Independent control of light intensity and colour spectrum
→ Individual colour settings accessible via pedal

Vitrectomy

→ Up to 15,000 cpm
→ Selectable cut modes
→ Endo phaco function
→ Instant diathermy function
→ Alternative IOP function

Air

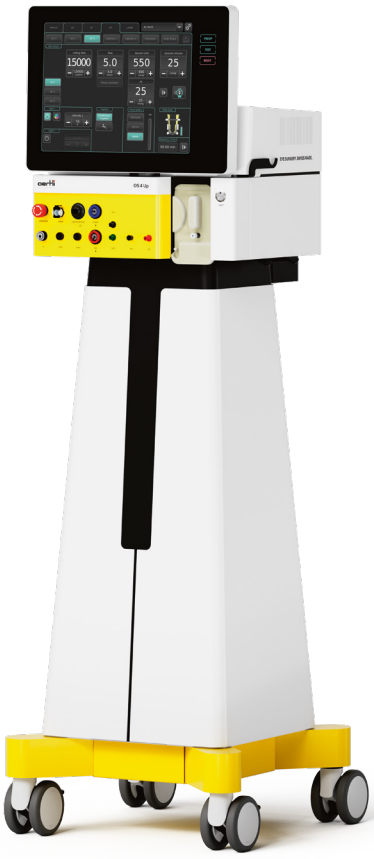
→ Manual fluid–air exchange
→ Machine-driven fluid–air exchange with pedal
→ Constant pressure control with compensation reservoir

Visco

→ Injection function
→ Injection+ function
→ Extraction function
→ Linear pedal control

Endolaser

→ Fully integrated 532 nm endolaser
→ Laser control via multifunction pedal
→ Laser class: Aiming beam 3R, laser pulse 4



Swiss quality down to the last detail

Seven decades of ophthalmic excellence
Since 1955, Oertli has shaped ophthalmic surgery through Swiss precision, premium quality, and visionary innovation. Based in Berneck, Switzerland, we combine advanced technology with a strong commitment to manufacturing excellence.

Innovation with purpose
More than 400 dedicated employees develop and manufacture surgical platforms, instruments, and consumables with one clear purpose: preserving eyesight worldwide.

At the core of our operations is our Lean Factory, where industrial efficiency and sustainability converge.

By consistently applying lean management principles and integrating advanced automation, we have created a state-of-the-art production environment.

Global reach, Swiss roots
Our international presence is anchored by five subsidiaries in Switzerland, Germany, Austria, South Africa, and the USA. This global presence is further strengthened by a network of over 60 independent distribution partners, ensuring that our innovations reach operating theatres worldwide.

We make the difference – for you and your patients.

References

* Oertli data on file

1 Compared to the previous Caliburn Trocar System

2 Compared to the previous Caliburn Trocar Set

3 Compared to the previous Continuous Flow Cutter

4 Use only pre-filled silicone oil syringes from Pharmpur® (ophthafutur® sil 1000 / 2000 / 5000), in the 10 ml version

5 With the settings recommended on www.oertli-instruments.com

6 Abushanab, M. M. I., A. El-Shiaty, T. El-Beltagi, and S. Hassan Salah (2019). The Efficacy and Safety of High-Frequency Deep Sclerotomy in Treatment of Chronic Open-Angle Glaucoma Patients. BioMed research international 2019:1850141.

Pajic, B., Z. Cvejic, K. Mansouri, M. Resan, and R. Allemann (2020). High-Frequency Deep Sclerotomy, A Minimal Invasive Ab Interno Glaucoma Procedure Combined with Cataract Surgery: Physical Properties and Clinical Outcome. Applied Sciences 10:218.

Pajic, B., B. Pajic-Eggspuehler, and I. Haefliger (2011). New minimally invasive, deep sclerotomy ab interno surgical procedure for glaucoma, six years of follow-up. Journal of glaucoma 20:109–114.

Pajic, B., B. Pajic-Eggspuehler, I. Haefliger, and F. Hafezi (2012a). Long-term Results of a Novel Minimally Invasive High-frequency Deep Sclerotomy Ab Interno Surgical Procedure for Glaucoma. European Ophthalmic Review 6:3–6.

Pajic, B., G. Pallas, H. Gerding, G. Heinrich, and M. Böhnke (2006). A novel technique of ab interno glaucoma surgery: follow-up results after 24 months. Graefe›s Archive for Clinical and Experimental Ophthalmology 244:22–27.

Pajic, B., M. Resan, B. Pajic-Eggspuehler, H. Massa, and Z. Cvejic (2021). Triggerfish Recording of IOP Patterns in Combined HFDS Minimally Invasive Glaucoma and Cataract Surgery: A Prospective Study. Journal of Clinical Medicine 10:3472.

Testimonial Disclaimer

[D] Customer feedback, statements, opinions and recommendations (summarised as testimonials) relate to the persons depicted. Results may vary and may possibly not be representative of other people's experiences. Testimonials are provided voluntarily and are not paid for. The testimonials reflect the experiences of the users, but the specific results and experiences are unique and individual for each user.

Surgical Platforms

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Faros™

CataRhex 3®

oertli®
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Not available for sale in the US

BD1039.E_2026.04 Subject to change