

## OS 4<sup>™</sup> MAKING THE DIFFERENCE WITH VERSATILITY



EYE SURGERY. SWISS MADE.



## MAKING THE DIFFERENCE IN EVERY SURGICAL SITUATION

«I'm working with different Oertli surgical platforms for more than 20 years. In contrast to other platforms, it's like working with your best friend. You can trust not only in routine cases but in every challenging and complicated surgical situation. Performance, safety, ease of use and continuous innovation are unique! »

Dr. Karsten Klabe

Breyer, Kaymak & Klabe Augenchirurgie, Düsseldorf, Germany

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.

## SWISS QUALITY DOWN TO THE LAST DETAIL

Using its innovative developments and high-quality products, Oertli is continuously setting new standards in cataract, vitreoretinal and glaucoma surgery. Oertli's surgical platforms, technologies and instruments allow surgeons and OR personnel to perform surgeries in a safer, easier and more efficient way providing better results for patients.

To ensure smooth workflows and results, the surgical platforms from Oertli and the corresponding instruments form a closed surgical system. Every instrument is compatible with all Oertli surgical devices, provided that the relevant function is available.

Of course, Oertli is consistently committed to the quality of its instruments, handpieces, tips and auxiliaries. The product portfolio is developed in Berneck, Switzerland, and manufactured under Swiss quality standards.



Christoph Bosshard Co-CEO Thomas Bosshard Co-CEO

## CONTENT

| OS 4 – The next generation | 6  | The new generation of the all-in-one platform was developed to make working in the operating theatre easy and efficient.                                       |
|----------------------------|----|--|
| Easy and safe operation    | 14 | The OS 4 surgical platform utilises the laws of physics with<br>the aim of making ophthalmic surgery even safer, easier<br>and more efficient.                 |
| The multifunctional pedal  | 15 | The modern multifunctional pedal allows independent working and intuitive navigation through all surgical steps.   |
| Areas of application       | 16 | Vitrectomy<br>In vitrectomy, the OS 4 impresses thanks to its established<br>fluidics concept and Power LED light source.                                      |
|                            | 22 | Glaucoma surgery<br>The HFDS ab interno MIGS procedure from Oertli used in<br>the treatment of glaucoma delivers promising long-term<br>results <sup>*</sup> . |
|                            | 24 | Cataract surgery<br>Innovations such as HF capsulotomy and easyPhaco are<br>developments that aim to make cataract surgery faster and<br>more efficient.       |
| Performance spectrum       | 30 | The OS4 is impressive thanks to its precision and remarkable performance in cataract, glaucoma and retinal surgery.  |

## OS 4" THE NEXT GENERATION

The OS 4 introduces the next generation of retinal, glaucoma and cataract surgery. Numerous innovative features have been added to Oertli's all-in-one platform, providing even greater ease of use, precision and safety.

The new generation of the OS 4 is another innovation leap in retinal, glaucoma and cataract surgery. The further development of the all-in-one platform by Oertli makes work in the OR noticeably easier and faster. The highlights undoubtedly include the two Power LED light sources boasting up to 45% more lightpower, the Wide control range at low lumens as well as the high-resolution contrast vision by means of the color-adjustable Power LED Plus<sup>-</sup>. The integrated endo laser no longer requires manual operation on the microscope thanks to the fully automated laser user protection filter. The multifunctional pedal offers over 100 setting options – thus being the favourite control for every surgeon. The phaco test is performed in 70% less time and speeds up surgery preparation.

Make the difference – by using the OS 4 by Oertli.



## $OS4^{TM}$

### **Laser integration:** More safety, fully automated laser user protection filter

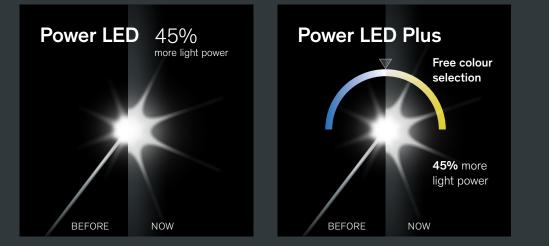
- $\rightarrow$  Fully automated laser protection filter for reliable eye protection during surgery
- $\rightarrow$  Filter glass is automatically inserted for swift and easy laser preparation
- → Filter glass only active during laser output for clear vision during anterior and posterior segment intervention



Page 21

#### Light: up to 45% more light power<sup>3</sup>

- $\rightarrow$  Power LED technology for a long service life'
- $\rightarrow$  Power LED with up to 45% more light output  $^{\rm s}$
- $\rightarrow$  Patient safety thanks to minimal phototoxic exposure with the low setting options<sup>4</sup>
- $\rightarrow$  Wide control range at low lumens, ideal combination with a 3D microscope
- → Comfort Connector to all endo illuminators
- → To make even the finest tissue structures visible and to enable high-resolution contrast vision, the colours yellow and blue can be mixed as needed.



Page 18

#### Pedal: Multifunctional with over 100 setting options

- → The modern multifunctional pedal allows independent working and intuitive navigation through all surgical steps.
- $\rightarrow$  Wide range of pedal assignments for individual control by the surgeon
- $\rightarrow$  Laser controllable via the same pedal for delay-free use of the laser function
- → Flexible changeover between Cut / Aspiration and Aspiration / Cut for immediate reaction to any changes in surgical situations

#### Phaco: Speedier readiness, greater controllability

- $\rightarrow$  70% faster phaco test for speedier surgical preparation without compromising safety
- $\rightarrow$  Vacuum override function switchable enhancement of the holdability
- $\rightarrow$  easyPhaco technology, developed for safe and efficient emulsification

#### User comfort: Even more user-friendly and communicative

- $\rightarrow$  Acoustic voice confirmations enable focused and autonomous work throughout the surgical procedure
- $\rightarrow$  Language output in five languages (German, English, French, Italian and Spanish)
- $\rightarrow$  Acoustic laser protection signals for additional operating safety for the OR team

#### Fluidics: Unique 3-pump system

- $\rightarrow$  Peristaltic, Venturi and SPEEP pump
- → For all applications in vitreoretinal, glaucoma and cataract surgery; immediately and individually controllable via the same cassette
- $\rightarrow$  Unique SPEEP pump for manual control of the holdability regardless of the type of tissue '



Page 15



Page 26



## READY FOR THE NEXT GENERATION?

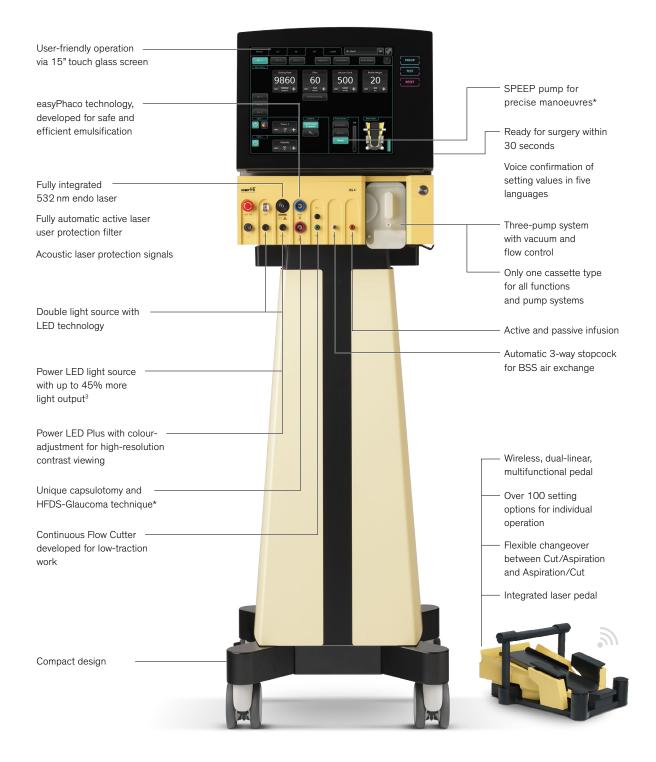
The OS 4 surgical platform utilises the laws of physics with the aim of making ophthalmic surgery even safer, easier and more efficient. The heart of the unit is the 3-pump system with vacuum and flow control and the innovative SPEEP pump, which allows both the flow and the vacuum to be controlled independently of each other<sup>-</sup>. The Power LED technology with its double light source provides homogeneous illumination and high-resolution contrast viewing. The pneumatically driven Continous Flow Cutter is developed for low-traction work on the retina and the fully integrated 532 nm endo laser provides reliable eye protection during treatment.

Make the difference – by using Oertli's OS 4.



#### THE SURGICAL PLATFORM OS 4

## OS 4™ – ADVANTAGES AT A GLANCE



FLUIDICS SYSTEM

## FLUIDICS WITH THE 3-PUMP SYSTEM



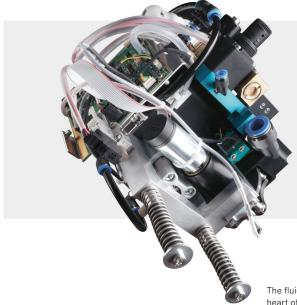
The heart of the unit is the 3-pump system with vacuum and flow control and the innovative SPEEP pump, which allows both the flow and the vacuum to be controlled independently of each other. The OS 4 surgical platform thus utilises the laws of physics with the aim of making ophthalmic surgery even safer, easier and more efficient.

#### Fluidics based on physics

As the inventor of the first dual pump system incorporating the Venturi and the Peristaltic pump in one surgical platform, Oertli established itself early as an innovative leader in the field of fluidics. The OS 4 is just another impressive example of how perfectly Oertli understand its use of fluidics and the laws of physics.

The ground-breaking pump technology, which features vacuum and flow control, forms the very heart of the OS 4. Oertli's 3-pump system does not only include the advantages of a Venturi pump and a Peristaltic pump, but also the unique SPEEP pump. The SPEEP pump allows both the flow and the vacuum to be controlled independently of each other. The foot pedal not only allows aspiration and release but also gives the surgeon complete control when holding and manipulating fragments and tissue.

Only one cassette is required for all functions and pump systems, which simplifies and speeds up processes. The correct pump system is immediately ready for use. Active and passive infusion can also be freely selected at any time.



#### SPEEP pump

The unique pump innovation from Oertli. The SPEEP pump uses the same principle as a Peristaltic pump\* to control the flow. With SPEEP the vacuum can also be controlled using the foot pedal. This enables precise control of holdability generated right at the tip opening'.

\*Modulation based on the principle of a Peristaltic pump

The fluidic unit is the heart of the OS 4

## COMFORTABLY FAST – INTUITIVELY CLEVER

The OS 4 boasts a highly developed surgical technology. This does not mean, however, that the operating platform is difficult to use. On the contrary: everything about the OS 4 is clear and easy. This makes operation comfortable and easy to understand for both OR personnel and the surgeon. The operating platform is ready for start quickly thanks to its own software technology. Following a switch-on time of about 30 seconds, the system is ready for start. This makes changeover between surgeries very short.

#### Touch glass screen

The no-frills 15-inch touch screen with a high-quality glass front directly leads the eye to the right function. The graphic user interface is simple and surgeon and OR personnel are immediately in focus and master functions intuitive to operate.

#### Voice confirmations

User-friendly voice confirmation in five individually adjustable languages (English, German, French, Italian, Spanish) enable focused and autonomous work throughout the surgical procedure. The acoustic laser protection signals provide additional operating safety for the entire surgical team.

#### Instrument table

The optional instrument table ( $80 \times 35$  cm) can be fixed in the desired position. When not needed, the table can be quickly stowed to one side to save space.



#### MULTIFUNCTIONAL PEDAL

## THE POWERFUL PEDAL

The wireless and dual linear foot pedal is the multifunctional control centre of the OS 4. Manufactured from robust metal, the pedal responds precisely and without delay to the surgeon's commands.

#### **Dual linear versatility**

In the OS 4 pedal, the dual linear control can be perfectly matched to the surgeon's wishes and needs. The modern multifunctional pedal allows comfortable and independent work while boasting intuitive navigation throughout all surgical steps. Six auxiliary buttons can be assigned to various functions, such as switching between functions or colour settings. Over 100 setting options are available.

#### Integrated laser pedal

Laser function under perfect control: When using the integrated endo laser, the pedal becomes a true laser pedal – immediately ready for use and controllable without delay.

- → Dual linear multifunctional pedal enables comfortable and independent work
- $\rightarrow$  Wireless communication, pedal can be placed anywhere in the OR
- $\rightarrow$  Runtime up to 50 hours
- $\rightarrow$  Laser controllable via the same pedal
- $\rightarrow$  Individually programmable for up to 50 surgeons
- $\rightarrow$  Over 100 setting options for individual operation for the surgeon
- $\rightarrow$  Fast and easy programme and function changes
- $\rightarrow$  Integrated rest position



OS 4<sup>TM</sup> IN VITRECTOMY

VITRECTOMY

As a modern all-in-one platform, the OS 4 focuses on functionality and quality in vitreoretinal surgery. The latest Power LED technology with double light source provides homogeneous illumination and a long service life. The pneumatically driven Continuous Flow Cutter is developed for low-traction work on the retina. The platform also includes a fully integrated endo laser which can be easily controlled using the multifunctional pedal.

## CALIBURN™ TROCAR SYSTEMS

#### High cutting force and holdability

Thanks to the lance-shaped blade, the Caliburn Trocar System has a high cutting force and consequently reduces the penetration force into the sclera'. The optimal blade geometry creates an incision into the sclera with a low penetration force for the trocar, meaning insertion is easy '. Reliable holdability in the incision is also ensured during surgery'.

Additionally, the integrated self-sealing membrane prevents the leakage of BSS, air and oil, which helps to maintain the IOP<sup>-</sup>. The patented snap lock enables the infusion tube to be securely connected and flexibly reconnected within the trocar system<sup>-</sup>. Thanks to the thin tunnel incision by the lance-shaped blade, there is good postoperative wound closure<sup>-</sup>.

#### Advantages of the Caliburn<sup>™</sup> Trocar Systems

- $\rightarrow$  Postoperative wound closure<sup>\*</sup>
- $\rightarrow$  Easy and smooth insertion of the trocar<sup>1</sup>
- $\rightarrow$  Integrated self-sealing membrane to maintain IOP<sup>\*</sup>
- → Flexibly reconnect the infusion tube with the patented snap lock<sup>\*</sup>



#### VITRECTOMY

## MORE LIGHT WITH POWER LED

#### Bright, homogeneous and safe

Thanks to the Power LED light source, the light output is up to 45 per cent greater than the previous device generation<sup>3</sup>.

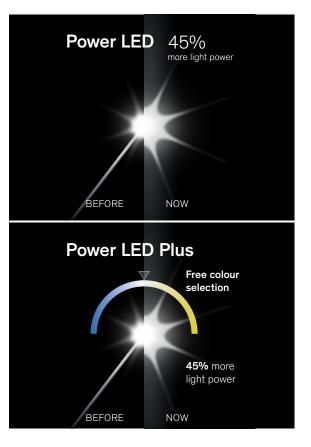
The OS 4 has a double light source that provides homogeneous illumination and high durability thanks to its latest Power LED technology. The wide control range is an ideal combination with 3D microscopes, especially in case of low lumens<sup>\*</sup>.

#### Power LED Plus

The colour spectrum of the second light source, the Power LED Plus, can be individually adjusted. To make even the finest tissue structures visible and to enable high-resolution contrast vision, the colours yellow and blue can be mixed as needed.

#### Advantages of Power LED

- → Power LED technology for a long service life\*
- $\rightarrow$  Power LED with up to 45% more light output<sup>3</sup>
- → Patient safety thanks to minimal phototoxic exposure with the low setting options<sup>4</sup>
- → Power LED Plus with free choice of colour, yellow and blue can be mixed as desired on the glass touch screen
- $\rightarrow$  Wide control range at low lumens, ideal combination with 3D microscope
- → Comfort Connector to all endo illuminators





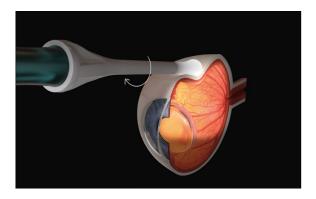
## VIPER – ILLUMINATED SCLERAL INDENTOR

#### Transscleral illumination

The ViPer illuminated scleral indentor is used to indent the globe and simultaneously provide transscleral illumination for posterior segment interventions. Rapidly and easily attached to the endo illuminator', the ViPer simplifies working in the periphery<sup>o</sup>'.

#### Advantages of the ViPer illuminated scleral indentor

- $\rightarrow$  Simultaneous indenting and illumination allows the surgeon to work autonomously
- → Easy visualization of the retina during peripheral vitreous body removal<sup>•</sup>
- $\rightarrow$  Homogeneous illumination of the indented tissue'
- $\rightarrow$  Mobility on the globe thanks to the smooth surface of the material
- $\rightarrow$  Can be attached to all Oertli endo illuminators (20G to 27G)





#### VITRECTOMY

## CONTINUOUS FLOW CUTTER

#### Enjoy low-traction work

Unlike conventional guillotine cutters with their open and closed positions, the opening of the Continuous Flow Cutter remains open at all times. A 0.1 mm wide double-edged blade cuts forwards and backwards, doubling the number of vitreous body portions per cycle. This can shorten the time needed for vitreous body removal while enabling high cutting speeds with continuous aspiration, even with small gauge sizes.

#### Discovery of the pneumatic push-pull principle

Oertli made an international breakthrough in vitreoretinal surgery with its invention of the first vitrectomy cutter in 1971. The push-pull principle for pneumatic cutters is another discovery by Oertli. The pneumatic push-pull principle uses the pneumatic force for both the forward and the backward movement. This generates a continuously high cutting force in both directions and eliminates the hysteresis associated with spring-driven systems that results from their limited physical conditions.

#### Duty cycle? Not an issue

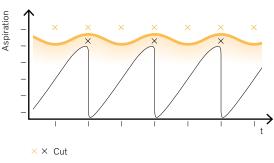
The duty cycle is obsolete because the port is always open. Oertli fluidics uses the physical principle to full advantage. The unique SPEEP pump provides control over both vacuum and flow'. This gives surgeons full control over aspiration and ensures precision for modern vitreoretinal surgery.

#### Cutting close to the tissue

The minimal distance of 0.17 mm (27G) between the port opening and the surface enables the surgeon to work closely at the tissue, enabling precise manoeuvring at the retina.

#### Advantages of the Continuous Flow Cutter

- $\rightarrow$  Continuously open port generates less traction on the retina  $^{\circ}$
- → Full control over aspiration thanks to the unique SPEEP pump<sup>6</sup>
- → Minimal distance between port opening and surface for close cutting to tissue
- → Constant cutting force with up to 10,000 cpm thanks to 100% quality control<sup>7</sup>
- → High-speed cutting using the pneumatic push-pull principle discovered by Oertli



- Oertli Continous Flow Cutter: continuous flow without any noticeable fluctuations. With each cycle, vitreos body is removed twice.
- \_\_\_\_ Standard Cutter: Flow is interrupted with each cycle.

#### VITRECTOMY

## ENDO LASER WITH PROTECTION FILTER

#### Fully integrated and fully automatic

With its new OS 4 generation, Oertli has enhanced laser integration by additional beneficiary functions. The fully automated laser user protection filter enables a reliable eye protection during treatment. The fully automatic insertion of the filter glass before the laser treatment saves the OR team precious time and energy. Since the filter glass is only active during laser treatment, the view always remains clear; there are no wavelengths of light that are filtered out. The acoustic laser protection signals provide additional operating safety for the entire surgical team.



Fully automated laser protection filter provides reliable eye protection



#### Advantages of the fully integrated endo laser

→ 532 nm endo laser

- → Fully automated laser protection filter provides reliable eye protection during surgery
- $\rightarrow$  Active monitoring by the laser protection filter
- $\rightarrow$  Fully automated insertion of the filter glass
- $\rightarrow$  Laser control integrated into the multifunctional pedal
- → Acoustic laser protection signals for additional operational safety
- $\rightarrow$  Extensive range of laser probes available

GLAUCOMA SURGERY

# OS 4™ IN GLAUCOMA SURGERY

In the treatment of glaucoma (green star), the HFDS ab interno MIGS procedure from Oertli delivers promising long-term results<sup>®</sup>.

#### GLAUCOMA SURGERY



## HFDS<sup>®</sup> (High Frequency Deep Sclerotomy) for modern MIGS surgery

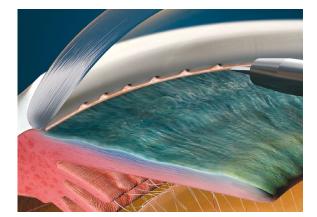
Oertli's surgical platforms with High Frequency Deep Sclerotomy (HFDS) technology offer an implant-free, ab interno procedure for micro-invasive glaucoma surgery (MIGS). The HFDS glaucoma tip is inserted through a 1.2 mm paracentesis and uses high-frequency diathermy to place small sclerotomy pockets in the iridocorneal angle, aiming to improve the outflow of aqueous humour.

In the treatment of primary open-angle glaucoma, Oertli's HFDS ab interno MIGS technology delivers promising long-term results in the reduction of IOP<sup>®</sup>. HFDS can be combined with cataract surgery or utilised as a stand-alone application<sup>®</sup>.

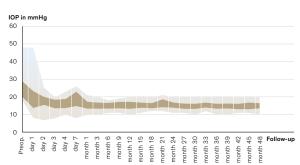
#### Advantages of HFDS

- → Implant-free micro-invasive glaucoma surgery
- $\rightarrow$  Convincing long-term results with a stable and long-term reduction in IOP and AGM  $^{\rm s}$
- → In combination with cataract surgery or utilised as a stand-alone application<sup>®</sup>





#### Convincing long-term results (48 months) after HFDS procedure<sup>®</sup>



The OS 4 also demonstrates efficiency and precision in cataract surgery with its easyPhaco technology.

CATARACT SURGERY

OS 4™ IN CATARACT SURGERY

#### CATARACT SURGERY

## HIGH-FREQUENCY CAPSULOTOMY

#### High-frequency capsulotomy

Since its launch in 1991, high-frequency capsulotomy has proven to be an alternative method for opening the lens capsule in uncountable cases. 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'.

HF capsulotomy is suitable for indications such as a lack of fundus reflex, hypermature cataract, traumatic cataract, intumescent cataract and juvenile cataract<sup>\*</sup>. Even with narrow pupils, out-of-control rhexis or rhexis phimosis, HF capsulotomy delivers reliable outcomes<sup>\*</sup>.

#### Advantages of HF capsulotomy

- $\rightarrow$  Easy capsulorhexis in application.
- → Cutting open the capsular bag without tearing with forceps or needles
- → For numerous indications such as lack of fundus reflex, hypermature cataract or narrow pupil.



## EASYPHACO®

#### easyPhaco® - Fluidics based on physics

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<sup>2</sup>.

#### 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.

A AND

#### Advantages of easyPhaco®

- $\rightarrow$  easyPhaco technology, developed for safe and efficient emulsification
- → Fragment followability and holdability thanks to the Oertli fluidics concept<sup>•</sup>
- $\rightarrow$  U/S energy absorbed by the occluded fragments
- $\rightarrow$  Smooth fragment aspiration without clogging.
- $\rightarrow$  Stable anterior chamber<sup>2</sup>
- $\rightarrow$  Available from 1.6 mm to 3.2 mm incisions



#### CATARACT SURGERY

## IRRIGATION / ASPIRATION BIPOLAR DIATHERMY

#### I/A with Safety Design

The Quick Tips with Safety Design feature an extended shaft for improved subincisional access. The small aspiration port results in better 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

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

#### Bipolar diathermy

The bipolar diathermy function in the CataRhex 3, Faros, OS 4 offers a number of applications such as the diathermy tip and forceps, the unique capsulotomy, and the HFDS procedure for MIGS surgery.

Both the handpiece and the tips are made from high-quality titanium and can be reused. The simple plug-in system makes it easy to change the tips on the handpiece.

Furthermore, Oertli's surgical platforms enable finely and directly controlled dosing of high-frequency energy and the bipolar energy delivered produces a precise and local effect<sup>10</sup>.

#### Advantages of bipolar diathermy

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



MAKING THE DIFFERENCE WITH SOPHISTICATED DESIGN



≪I have performed vitreoretinal interventions for decades. Oertli devices have always accompanied me reliably from the beginning. Regular maintenance enhances the longevity of the equipment. The OS 4 unites high-tech developments with sophisticated design and utmost user-friendliness. The touchscreen is clearly arranged, and due to the dark background, glare-free. The broad range of setting options offers the desired parameters to every surgeon, no matter whether he / she is a beginner or an expert user. This way, you can learn how to perform surgeries with great safety. ≫

**PD Dr. Ulrike Stolba** Eye Department of the Rudolfstiftung Vienna, Austria

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#### MODULAR DESIGN

## OS 4™ – PERFORMANCE SPECTRUM

#### System

#### Fluidics system

- → Peristaltic pump
- →Venturi pump
- →SPEEP pump
- → Gravity infusion, electric pole drive
- $\rightarrow$  Active infusion (GFI)
- $\rightarrow$  Tubing system with integrated closed pressure sensor
- → Auto venting
- $\rightarrow$  Limitable reflux
- $\rightarrow$  Pre-op, self-test and reset functions

#### Operation

- $\rightarrow$  Control panel with 15" touch glass screen
- → Audio signals
- → Extended voice confirmations in five languages

#### Pedal

- → Dual linear multifunction pedal
- → Wireless
- → Integrated laser operation
- $\rightarrow$  Over 100 setting options
- $\rightarrow$  Individual programming for 50 surgeons
- $\rightarrow$  Dual linear or linear
- $\rightarrow$  Reflux function
- $\rightarrow$  Rest position

#### Anterior segment

#### **HF** function

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

#### Phaco function

- $\rightarrow$  70% shorter phaco tests
- $\rightarrow$  Three program memories with DirectAccess
- $\rightarrow$  Ultrasound phaco with auto tuning
- $\rightarrow$  Vacuum Override function
- $\rightarrow$  easyPhaco handpiece with six piezo crystals
- $\rightarrow$  Linear, PULSE, BURST and CMP
- $\rightarrow$  easyPhaco, CO-MICS and MICS technology
- $\rightarrow$  Dual linear phaco
- $\rightarrow$  Occlusion mode

#### I/A function

- $\rightarrow$  Three program memories with DirectAccess
- $\rightarrow$  Continuous irrigation

#### Anterior segment vitrectomy

- $\rightarrow$  Three program memories
- $\rightarrow$  Dual pneumatic guillotine cutter
- $\rightarrow$  Linear 10 to 10,000 cuts / min
- $\rightarrow$  Single incision
- $\rightarrow$  Irrigation/Aspiration/Cut
- → Irrigation/Cut/Aspiration
- → Flexible changeover between Aspiration/Cut and Cut/Aspiration

#### Posterior segment

#### Endo Illumination

- $\rightarrow$  Two independent Power LED light sources
- $\rightarrow$  Up to 45% more light output  $^{\rm s}$
- $\rightarrow$  Wide control range at low lumens
- $\rightarrow$  Power LED Plus light source with adjustable colours
- $\rightarrow$  Filter-free output

#### Vitrectomy

- $\rightarrow$  Three program memories with DirectAccess
- $\rightarrow$  Pneumatically driven Continuous Flow Cutter
- $\rightarrow$  Linear or progressive, 10 to 10,000 cuts / minute
- $\rightarrow$  Single incision
- $\rightarrow$  Endo phaco

#### Air

- $\rightarrow$  Fluid-air exchange
- $\rightarrow$  Fluid-air exchange with pedal
- $\rightarrow$  Constant pressure control with compensation reservoir

#### Visco

- $\rightarrow$  Injection
- $\rightarrow$  Extraction
- $\rightarrow$  Linear pedal control

#### Endo laser

- → Endo laser 532 nm
- → Fully automated laser user protection filter Acoustic laser protection signals
- $\rightarrow$  Laser power controllable with pedal
- $\rightarrow$  Laser class: pilot beam 3R, working beam 4



## MAKING THE DIFFERENCE IN EYE SURGERY

Oertli makes the difference. With surgical devices, instruments, and consumables of high quality, aimed at making the surgical process safer, simpler, and more efficient. With sustainable innovations and new technologies to shape ophthalmology for decades to come. With superb service provision and significant added value for surgeons and OR personnel. And with our continuous striving to achieve the best for our customers, users and patients.

#### Setting benchmarks

The name Oertli is synonymous with Swiss quality, highest precision and the reliability. We develop and produce our products exclusively at our site in the St Gallen Rhine Valley in Switzerland. Not only does this allow us to rely on expertly trained staff and a dynamic environment, we always have complete control over the quality and properties of our products.

Throughout the history of the company, Oertli has developed many innovations that have shaped eye surgery for the long term. We are not content to rest on our laurels – instead, our successes drive us further. Every day we work hard to maintain our vibrant research spirit and provide our innovative hunger with new avenues to explore.

Although we have an international presence, at heart we remain an independent family-run business with a fighting spirit, deep roots, solid financing and authentic teamwork. Anyone who works at Oertli does so with great commitment and motivation. Because everyone gives their best and applies their whole range of talents, we can successfully position ourselves with confidence. Based on this solid foundation, we make the difference – for eye surgery, for our customers, for patients.







#### **Distribution network**

Oertli makes a firm commitment to its site in Berneck, Switzerland. Here is where we generate ideas and develop innovations, where our devices, instruments and consumables are developed and produced. So that our products can be used globally, we rely on our own distribution companies or independent distribution partners depending on the region. In every case, our ophthalmology customers around the world can rely on expert contact partners. They provide excellent service on site, can advise about our entire product range and are perfectly trained in the use of our products.

#### Trademark notices

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## MAKING THE DIFFERENCE IN SWITZERLAND

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## REFERENCES

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* Oertli data on file
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- 1 Geometry, penetration force, and cutting profile of different 23-gauge trocars systems for pars plana vitrectomy, C.H. Meyer MD, H. Kaymak MD, published in the November 2014 issue of the Retina Journal (Volume: 34:2290–2299, 2014)
- 2 With the settings recommended on www.oertli-instruments.com
- 3 Compared to the previous generation with 27G and 25G endo illuminators at 100% intensity in lumen
- 4 Compared to the previous generation with 25G endo illuminator panorama at low lumen with 5% intensity, working distance 15 mm
- 5 Compared to the previous generation of the SPS cutter
- 6 SPEEP pump with preset maximum flow rate
- 7 100% final check with the cutting test
- 8 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.

9 Compared to unilluminated, assisted indenting

10 Compared to monopolar diathermy

#### Surgical Platforms







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