

NEW WITH
SPEEP®

oerli®
SWITZERLAND


CataRhex 3®

MAKING THE DIFFERENCE
WITH SPEEP®

EYE SURGERY. SWISS MADE.



MAKING THE DIFFERENCE WITH RELIABILITY

A black and white portrait of a man with short, dark hair and a light beard, wearing black-rimmed glasses and a dark button-down shirt. He is smiling and looking directly at the camera. The background is dark and out of focus.

«We have been thrilled with the CataRhex 3, which our practice is using for 100% of our in-office phacos. The machine is indestructible, utterly reliable, and completely intuitive, so there is zero learning curve. The machine is beautiful in its simplicity and a true joy to use.»

Jack Parker, MD PHD
Parker Cornea Alabama, USA

PERFECTION TO THE CORE

With its innovative developments and premium products, Oertli repeatedly sets new benchmarks for cataract, vitrectomy and glaucoma surgery. Oertli's surgical platforms, technologies and instruments ensure that surgeons and OR personnel can operate more safely, easily and efficiently, achieving better outcomes for their patients.

To ensure perfect 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 instruments are developed in Berneck, Switzerland, and manufactured with the utmost precision. This ensures that surgeons can rely completely on their tools.



Christoph Bosshard
Co-CEO

Thomas Bosshard
Co-CEO

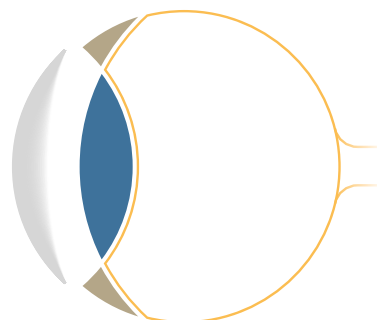
CATARHEX 3® – FLEXIBILITY WITHOUT COMPROMISING ON PERFORMANCE

The CataRhex 3 surgical platform from Oertli proves that great things sometimes come in small packages. With unbeatably compact dimensions and a lightweight at just five kilograms, the CataRhex 3 is systematically focused on mobility and portability – without compromising on performance. With the new SPEEP pump and the familiar easyPhaco technology, we have developed an effective tool for simple, safe and efficient work in routine surgery.

The capsulotomy tip is used to open the capsular bag using high-frequency diathermy. There is an integrated compressor for anterior vitrectomy, and the HFDS application ensures promising long-term results for glaucoma surgery ^[2].

**Make the difference – with the
CataRhex 3 from Oertli.**

Cataract	●
Glaucoma	●
Vitrectomy	



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Performance spectrum	22	Despite its exceptionally compact size, the CataRhex 3 offers precision and a suite of impressive functions for cataract and glaucoma surgery.

CATARHEX 3® – NEW WITH SPEEP®

SPEEP – Speed and precision

The unique pump innovation from Oertli.
The SPEEP pump uses the same principle as a peristaltic pump* to control the flow. SPEEP also allows the vacuum to be controlled with the foot pedal, which enables precise regulation of the holding force generated at the instrument opening.

How does the SPEEP pump work?

SPEEP combines the advantages of a flow-controlled peristaltic pump with the sportiness of a vacuum-controlled venturi pump.

The SPEEP pump allows both the flow and the vacuum to be controlled independently of each another. The foot pedal not only allows to aspirate or release. The surgeon experiences complete control when using it to hold and manipulate fragments and tissue. SPEEP continues to control the vacuum even under occlusion.

*Modulation based on the principle of a peristaltic pump



What are the benefits of the SPEEP pump?

With challenging cases such as floppy iris syndrome or zonular weakness, precise control of the fluidics is essential.

Thanks to the independent settings for flow and vacuum, SPEEP generates a dosable holding force at the instrument opening – giving surgeons complete control.

Fluidics: Unique 2-pump system

- Unique SPEEP pump – for manual control of the holding force regardless of the type of tissue
- Pump responds immediately and directly – facilitates precise and fine manoeuvring right at the tissue
- Independent control of flow and vacuum – developed for safe work with maximum control



CATARHEX 3® – ADVANTAGES AT A GLANCE

User-friendly
control panel

Unique SPEEP pump
for manual control of
holdability

Precise flow control
with peristaltic pump

easyPhaco technology
for safe and efficient
emulsification

Simple capsulorhexis
by means of the
HF capsulotomy

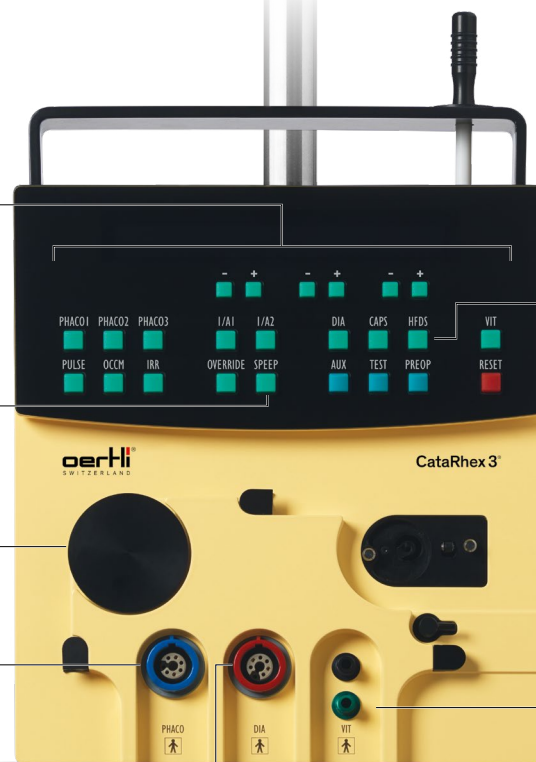
Ready for operation
within five seconds

Integrated HFDS
application for
glaucoma surgery

Maximum mobility
thanks to low weight
and small size

Integrated air compressor
for anterior vitrectomy

Robust and precise
multifunctional pedal



SMALL PLATFORM, BIG PERFORMANCE

The CataRhex 3 is the systematically compact and portable surgical platform for cataract and glaucoma surgery. The full innovative strength of Oertli is packed into the impressively small housing. Its powerful performance and exceptional user friendliness make the CataRhex 3 the ideal device for ophthalmic surgery under a range of conditions.

Fluidics based on physics

CataRhex 3 is further proof that Oertli is an innovative leader when it comes to harnessing fluidics based on physics. The fluidics concept works systematically with physical laws.

Thanks to the precise flow control provided by the peristaltic principle, the CataRhex 3 provides precision and force, both for phacoemulsification with easyPhaco and for I/A and anterior vitrectomy. The flow can be controlled in increments of 1.0ml.

SPEEP – Speed and precision

The SPEEP pump gives you precise control over the efficiency and precision of flow and vacuum in cataract surgery. Controlled holding and aspiration of fragments allows you to determine the pace of work using the SPEEP pump.



OPERATION

SPEEDY, PLEASANT AND INTUITIVE

As a multifunctional surgical platform for advanced cataract and glaucoma surgery, the CataRhex 3 is a masterpiece of surgical technology that is as powerful as it is compact. The display is clearly laid out, the device is easy to use, everything is streamlined. The surgical platform is also exceptionally quick to start up: the system is ready to use just a few seconds after being switched on.

Connections

Even prior to the surgery, the CataRhex 3 reveals its user-friendly side. All connections can be accessed from the front of the device at the same operating height. All instruments are connected at the front using clear colour coding. The tubing system is suspended sterile on the front of the platform.

Control panel

The bright displays on the control panel are easy to read and give you precise information about surgical values and settings. The control buttons are arranged logically and always have the same function that is activated without delay when a button is pressed. The pivotable display panel gives surgeon and assistant an unimpeded view. Up to 20 surgeons can be programmed to use the device.

Infusion pole / instrument trays

The optional infusion pole and easy-to-assemble instrument trays turn the CataRhex 3 into a flexible surgical station.



MULTIFUNCTIONAL PEDAL

THE MULTIFUNCTIONAL PEDAL

The robust multifunctional pedal of the CataRhex 3 enables reliable control of the system with simple foot movements. The pedal is waterproof*, extremely compact and weighs just 2.6 kilograms.

Robust and reliable

The linear foot pedal is the multifunctional control unit of the CataRhex 3. Manufactured from robust metal with a high-quality finish, the pedal responds precisely to the surgeon's commands with no delay. Simple foot movements efficiently control the CataRhex 3. There are four movement areas available for fine linear control, accessing saved data, and switching functions on and off.

The pedal is waterproof, takes up little space and is light enough to move with your foot. To ensure reliable data transfer, the pedal of the CataRhex 3 works with a classic cable connection.



-
- Linear multifunctional pedal
 - Waterproof, robust and compact
 - Cable connection for uninterrupted transfer of commands
 - Four movement areas for control and monitoring
-

* As per standard, IPX6



CATARACT SURGERY

CATARHEX 3[®] IN CATARACT SURGERY

The CataRhex 3 is used to make cataract surgery quick, safe, calm and, thanks to its exceptional mobility, accessible everywhere. The space-saving and portable surgical platform enables cataract surgery at the highest level, both in modern high-performance operating theatres and under difficult conditions or special circumstances.

HIGH FREQUENCY CAPSULOTOMY

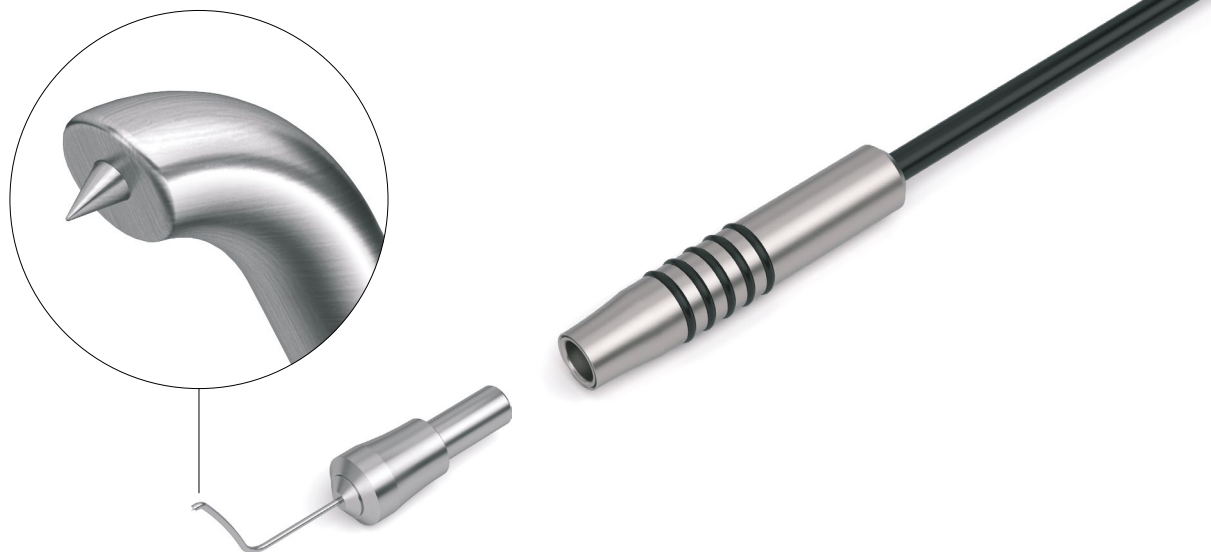
The gentle choice

Since its launch in 1991, high-frequency capsulotomy has proven to be the ideal method for opening the lens capsule in uncountable cases. The use of high-frequency energy melts the capsular bag – entirely without the usual tearing by forceps or needles. It is sufficient to gently slide the capsulotomy tip over tissues, even under the iris, while dosing the diathermy energy. The resulting capsular edge conforms to the current standard – both during surgery and over the long term.

HF capsulotomy is suited for indications such as no fundus reflex, hypermature cataract, traumatic cataract, intumescent cataract and juvenile cataract. Even with narrow pupils, out-of-control rhexis or rhexis phimosis, HF capsulotomy delivers reliable outcomes.

Advantages of HF capsulotomy

- Gentle alternative to capsulorhexis
 - Melting the capsular bag without tearing with forceps or needles
 - Fine and directly controlled dosing of the HF energy
-



EASYPHACO® TECHNOLOGY

easyPhaco® – Fluidics based on physics

easyPhaco technology was 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 seven times higher than the aspiration volume, enabling steady intraocular pressure for a stable anterior chamber.

New easyPhaco® handpiece

The new easyPhaco handpiece offers the surgeon optimised phaco performance* for the entire lifetime of the product as well as greater user comfort.

No compromises for phacoemulsification

The new piezo crystals ensure optimised phaco performance* for the entire lifetime of the product. The shorter cable length makes the device more comfortable to use thanks to the lighter weight and saves space when reprocessing and storage (standard sterilisation containers).

Advantages of easyPhaco®

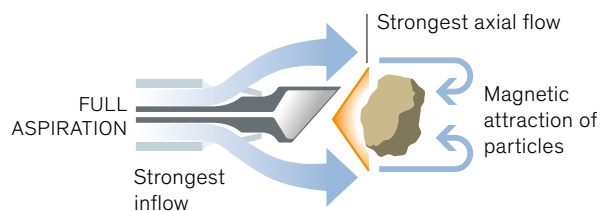
- easyPhaco technology, developed for safe and efficient emulsification
- Fragment followability and holdability thanks to Oertli fluidics concept
- Ultrasound energy absorbed by occluded fragments
- Smooth fragment aspiration without clogging
- Stable anterior chamber
- Available from 1.6 mm to 2.8 mm incisions



*Internal wet lab measurements with aged handpieces,
Oertli data on file

Direct fragment followability

The high vacuum setting and the wide infusion path of the easyTips create a direct flow to the tip. This results in a magnet-like attraction of the fragments.



Strong fragment holdability

The easyTip's unique bevel of the tip opening has been designed to hold fragments firmly at the tip. Thanks to the high vacuum created, fragments are no longer repelled.



U/S energy absorbed by the occluded fragments

Thanks to the strong holdability and the longitudinal movements of the easyTips, ultrasound is axially directed to the occluded fragments.



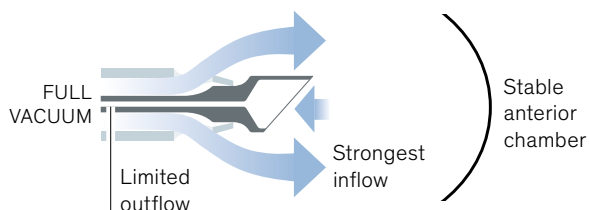
Smooth fragment aspiration

Following an occlusion break, the capillary aspiration path of the easyTips provides continuous aspiration. The high vacuum setting prevents clogging, and fragments are smoothly aspirated.



Stable anterior chamber

A seven times higher infusion capacity favours constant intraocular pressure.

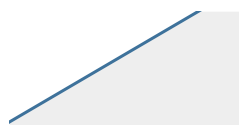


Phaco-modulation

The CataRhex 3 offers three types of power modulation that can be used with easyPhaco.

Continuous linear

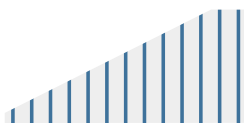
The surgeon doses the phaco power using the multifunctional pedal: the phaco power corresponds to the pedal deflection.



Continuously linear

PULSE mode

The PULSE mode uses less energy because it reduces the ultrasound energy emitted compared to continuous linear activation. The pulse frequency (up to 40 Hz) and cooling factor can be freely selected and are independent of the pedal position. The power of the pulse is directly controlled using the pedal.

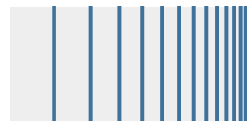


PULSE mode

Femto aspiration

BURST mode

The Femto laser can do a lot but it can't aspirate nucleus and cortex or polish the capsule. But this is where the CataRhex 3 is in its element! The Burst mode can reduce the phaco energy down to zero to aspirate pre-fragmented nuclei. CataRhex 3 is the best partner for every Femto laser!



BURST mode

IRRIGATION / ASPIRATION

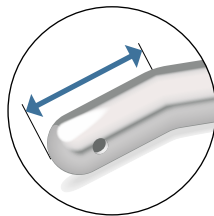
I / A with a sophisticated Safety Design

The Quick Tips with Safety Design have an extended shaft for improved subincisional access. The small aspiration opening results in better occludability and ensures optimal stability of the anterior chamber. The well-considered position of the aspiration opening prevents unintended grasping of the capsular bag.

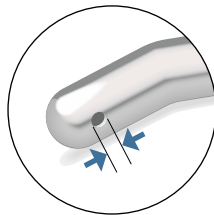
Advantages of I / A with Safety Design

- Developed to ensure stable anterior chamber conditions
- Long shaft for subincisional access
- Rapid occludability
- Ideal in combination with the SPEEP pump
- Available from 1.6 mm to 2.8 mm incisions

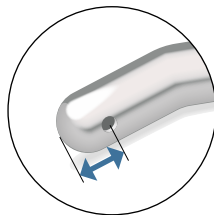
Extended shaft length for improved subincisional access.



Small aspiration opening for better occlusion during aspiration.



Repositioned aspiration opening to prevent unintentional grasping of the capsular bag.



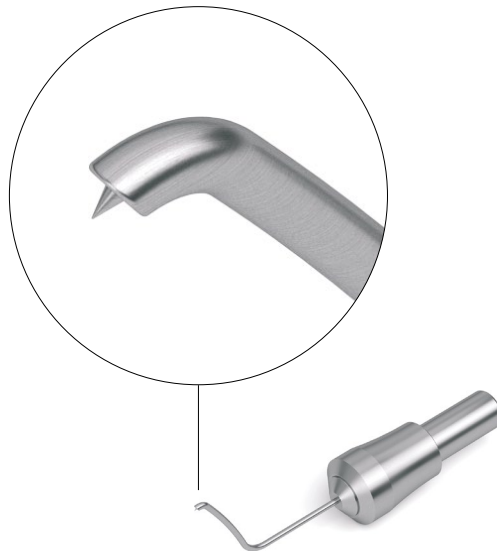
HF-BIPOLAR DIATHERMY

Precision in bipolar diathermy

The bipolar diathermy function of the CataRhex 3 has a number of applications such as the unique capsulotomy technique (page 13), the HFDS procedure for MIGS surgery (page 21) and diathermy forceps. Handpieces and the easy to attach tips are manufactured from high-quality titanium.

Advantages of HF-bipolar diathermy

- One function for several applications:
Oertli capsulotomy, HFDS, diathermy forceps
- Fine and controlled dosing of HF energy
- High-quality titanium handpieces and tips



ANTERIOR VITRECTOMY

Vitreous body removal

Thanks to the integrated compressor, Oertli's CataRhex 3 is quickly ready to use for anterior vitrectomy. There is no need for an external compressed air supply, which also enables operating under exceptional circumstances. The pneumatic Continuous Flow Cutter enables efficient work with up to 2400 cuts per minute.

Advantages for anterior vitrectomy

- No compressed air supply needed thanks to the integrated compressor
 - Pneumatic Continuous Flow Cutter developed for traction-free work
 - Up to 2400 cuts/minute depending on the cutting instrument
-





GLAUCOMA SURGERY

CATARHEX 3[®] IN GLAUCOMA SURGERY

The CataRhex 3 provides an option for surgical treatment of glaucoma in micro-invasive glaucoma surgery (MIGS). High-Frequency Deep Sclerotomy (HFDS) creates a direct access between the anterior chamber and the Schlemm canal that bypasses the outflow resistance of the trabecular meshwork.

HFDS®

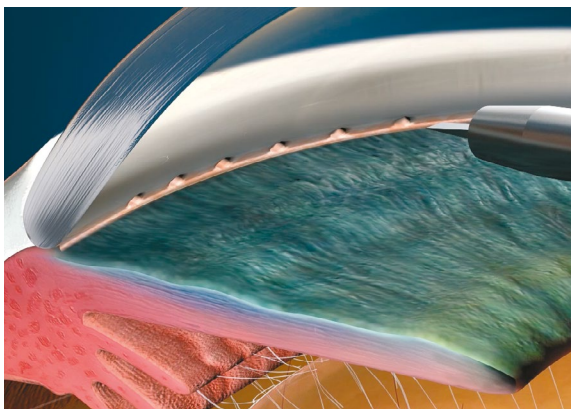
Rapidly applied, long-term success

HFDS stands for *High-Frequency Deep Sclerotomy*. In micro-invasive glaucoma surgery (MIGS), HFDS creates a direct access from the anterior chamber to the Schlemm canal and further into the sclera. The HFDS glaucoma tip is inserted through a 1.2-mm paracentesis and six small sclerotomy pockets are formed in the iridocorneal angle to improve the outflow of the aqueous fluid.

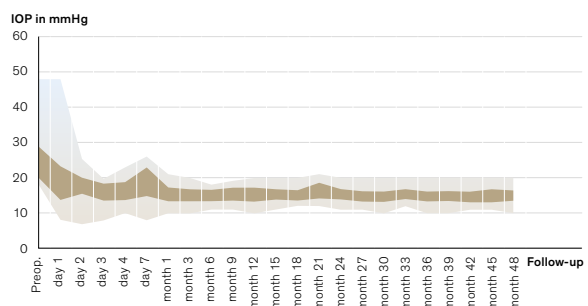
HFDS can be performed by itself or in combination with cataract surgery and is a short procedure. High-frequency deep sclerotomy ab interno from Oertli delivers impressive long-term results for the intraocular pressure. If needed, a procedure with HFDS can also be repeated.

Advantages of HFDS

- Implant-free micro-invasive glaucoma surgery ^[20]
- Impressive long-term results with a stable and long-term reduction in IOP and AGM ^[2]
- Short procedure time with high safety profile ^[2, 8, 14]
- Combined with cataract surgery or a stand-alone application



Outstanding long-term results (48 months) after HFDS procedure ^[2]



[2] B. Pajic, B. Pajic-Eggspuehler, and I. Haefliger, «New minimally invasive, deep sclerotomy ab-interno surgical procedure for glaucoma, six years of follow-up,» *Journal of glaucoma*, vol. 20, no. 2, pp. 109–114, 2011, doi: 10.1097/IJG.0b013e3181dddf31.

[8] B. Pajic, Z. Cvejic, K. Mansouri, M. Resan, and R. Allemann, «High-Frequency Deep Sclerotomy, A Minimal Invasive Ab-interno Glaucoma Procedure Combined with Cataract Surgery: Physical Properties and Clinical Outcome,» *Applied Sciences*, vol. 10, no. 1, p. 218, 2020, doi: 10.3390/app10010218.

[14] Kaweh Mansouri, M.D., M.P.H., A Multicenter Prospective Study of High-Frequency Deep Sclerotomy (HFDS) in Open-Angle Glaucoma: 3-Year Outcomes: Manuscript; UNPUBLISHED DATA.

[20] Aleksandar Pavlovic, Ab-Interno Deep Sclerotomy in Eight Simple Steps. [Online]. Available: https://www.oertli-instruments.com/downloads/glaukom/crst_september_2017_ab-interno_deep_sclerotomy_in_eight_simple_steps.pdf

CATARHEX 3® — PERFORMANCE SPECTRUM

System

Fluidics system

- Peristaltic pump
- SLEEP pump
- Tubing system with integrated closed pressure sensor
- Auto venting
- Limitable reflux
- Pre-op, self-test and reset functions

Operation

- Control panel with glass cover, crystal-clear indicator lights and silicone buttons
- Linear multifunctional pedal
- Individual programming for 20 surgeons
- Audio signals

Pedal

- Cable connection
- Linear
- Reflux function

Anterior segment

HF functions

- Capsulotomy
- HFDS ab interno Micro-Invasive Glaucoma Surgery
- Conjunctiva coaptation
- Macro diathermy

Phaco function

- Three program memories with DirectAccess
- Ultrasound phaco with auto tuning
- Ultrasound phaco handpiece with six piezo crystals
- Linear, PULSE, BURST, CMP and Panel modes
- Occlusion mode
- easyPhaco, CO-MICS and MICS technology

I / A function

- Two program memories with DirectAccess
- Vacuum Override function
- Continuous irrigation

Anterior segment vitrectomy

- Three program memories
- Dual pneumatic guillotine cutter
- Linear 30 to 2400 incisions/min
- Single incision
- Irrigation / Aspiration / Cut
- Irrigation / Cut / Aspiration

MOBILITY

CATARHEX 3® – UNBEATABLY COMPACT



CataRhex 3 – the surgical platform that fits into a pilot case but is nevertheless extremely efficient.

MAKING THE DIFFERENCE IN EYE SURGERY

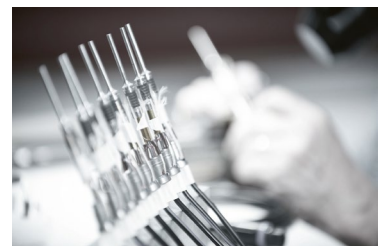
Oertli makes the difference. With surgical devices, instruments and consumables of impressive quality and a mission to make the surgical process safer, easier and more efficient. With sustainable innovations and new technologies to shape ophthalmology for decades to come. With outstanding service provision 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, outstanding precision and the utmost 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-operated 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 distributors 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 outstanding service on site, can advise about our entire product range and are perfectly trained in the use of our products.

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Faros™, OS4™, DirectAccess™, Caliburn™, ParaProg™, True Flow Control™ and GoodLight LED™ are trademarks of Oertli Instrumente AG.

References

Claims Oertli data on file QMF 02.03
Promotional content for CataRhex 3

MAKING THE DIFFERENCE IN SWITZERLAND



As a Swiss family-owned company with a long tradition, we focus on what counts: quality, reliability, safety, innovation and the needs of our customers.

We make the difference –
for you and your patients.





EYE SURGERY. SWISS MADE.

Surgical Platforms



OS 4™



Faros™



CataRhex 3®



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