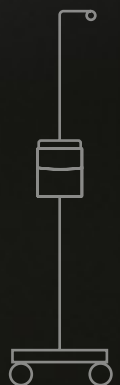


A detailed close-up of a bird of prey, likely a falcon, showing its intense yellow eyes and sharp, hooked beak. The bird's feathers are dark and textured.


**oerli**<sup>®</sup>  
S W I T Z E R L A N D

**CataRhex 3<sup>®</sup>**  
MAKING THE DIFFERENCE  
WITH SPEEP<sup>®</sup>

EYE SURGERY. SWISS MADE.



# MAKING THE DIFFERENCE WITH RELIABILITY

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

«We have been thrilled with the CataRhex3, 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

The testimonials, statements and opinions apply to the individuals depicted. Results will vary and may not be representative of the experience of others. The testimonials are voluntarily provided and are not paid. The testimonials represent user experience, but the exact results and experience will be unique and individual to each user.

# MAKING THE DIFFERENCE WITH ASTOUNDING FLUIDICS

«The CataRhex3 is an amazing Swiss-engineered precision phacoemulsification device. It is one of the most underrated phaco machines on the US market. I have used the CataRhex3 on hundreds of cases in direct head-to-head comparison with the other major phaco machines. The CataRhex3 is like the David to all the other Goliath machines. The fluidics are astounding. The phaco power is more than enough even for the most dense lenses. It is easy to set up and has a small footprint. It is my go to machine for all cataract cases..»

**Aaron Waite MD**

Waite Vision Eye Centre, Lehi, Utah, USA

The testimonials, statements and opinions apply to the individuals depicted. Results will vary and may not be representative of the experience of others. The testimonials are voluntarily provided and are not paid. The testimonials represent user experience, but the exact results and experience will be unique and individual to each user.



# 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

# CATARHEX3® – FLEXIBILITY WITHOUT COMPROMISING ON PERFORMANCE

The CataRhex3 surgical platform from Oertli proves that great things sometimes come in small packages. With compact dimensions and a lightweight at just 11 lbs, the CataRhex3 is systematically focused on mobility and portability – without compromising on performance. With the new SPEEP pump and the familiar easyPhaco technology, we developed a platform with the aim of 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 and there is an integrated compressor for anterior vitrectomy.

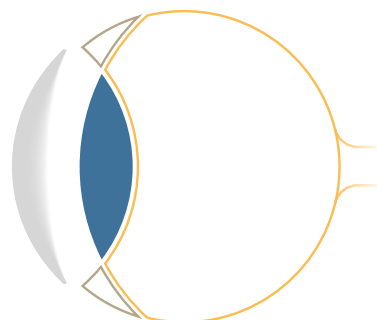
**Make the difference – with the  
CataRhex3 from Oertli.**

Cataract



Glaucoma

Vitrectomy



# CONTENTS

<b>The new SPEEP pump</b>	<b>6</b>	The SPEEP pump provides you with an effective tool, developed so that you can work easily, safely and efficiently.
<b>Easy operation</b>	<b>10</b>	It is critical that eye surgery is straightforward and efficient, particularly in unusual situations.
<b>The multifunctional pedal</b>	<b>11</b>	The linear pedal of the CataRhex 3 serves as a reliable control unit for the surgeon, thanks to its cable connection.
<b>Areas of application</b>	<b>12</b>	<b>Cataract surgery</b> Innovations such as HF capsulotomy and easyPhaco are developments that aim to make cataract surgery faster and more efficient.
<b>Performance spectrum</b>	<b>22</b>	Despite its compact size, the CataRhex3 offers precision and a suite of functions for cataract surgery.

# CATARHEX 3® – NEW WITH SPEEP®

## SPEEP – Speed and precision

SPEEP is our latest pump invention. It 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 regulation of the holding force generated at the instrument opening.

\*Modulation based on the principle of a peristaltic pump

### **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 control when using it to hold and manipulate fragments and tissue. SPEEP continues to control the vacuum even under occlusion.



# CATARHEX 3® – NEW WITH SPEEP®

## 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 – placing the surgeon in 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

Ready to use in just  
a few seconds

New SLEEP pump  
for manual control of  
holdability

Precise 1.0 ml increment  
flow control of the  
peristaltic pump

easyPhaco technology,  
developed for safe  
and efficient emulsification

Highly mobile  
thanks to light weight  
and small size

Integrated compressor  
for anterior vitrectomy

Capsulorhexis using  
HF capsulotomy tip

Robust multifunctional  
pedal

# SMALL PLATFORM, BIG PERFORMANCE

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

## **Fluidics based on physics**

CataRhex3 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 1.0 ml.

## **SPEEP – Speed and precision**

The SPEEP pump gives the surgeon the control over 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 surgery, the CataRhex 3 is as powerful as it is compact. The display is clearly laid out, the device is easy to use due its one function per button, and everything is streamlined. The surgical platform is also 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 CataRhex3 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 CataRhex3 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 5.7 lbs.

### **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. 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<sup>®</sup> IN CATARACT SURGERY

The CataRhex 3 is designed with the goal 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 in modern high-performance operating theatres and under difficult conditions or special circumstances.



# BIPOLAR CAPSULOTOMY

## An easy alternative

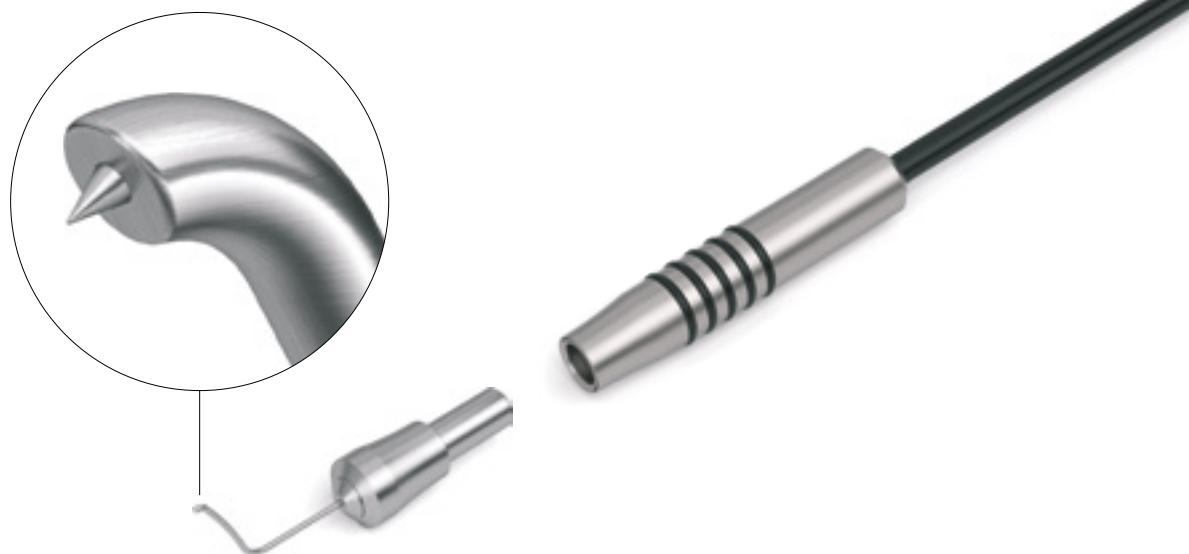
Since its introduction in 1991, bipolar capsulotomy has been used for opening the lens capsule in countless cases. The bipolar energy cuts the capsular bag with high-frequency, rather than the traditional tearing by forceps or needles. This method allows for a gentle sliding of the capsulotomy tip over tissues, even under the iris.

The Oertli capsulotomy is suited for indications such as traumatic cataract, intumescent cataract and especially for juvenile cataract. Also, for cases with no fundus reflex, narrow pupils, out-of-control rhexis, or rhexis phimosis. In addition, the capsulotomy tip can be used for hypermature cataract without requiring additional capsule staining.

---

### **Advantages of bipolar capsulotomy**

- An easy alternative to capsulorhexis
  - Cutting the capsular bag without tearing with forceps or needles
  - Applicable for various indications
- 



# EASYPHACO® TECHNOLOGY

## easyPhaco® – Fluidics based on physics

easyPhaco technology is developed for safe and efficient phacoemulsification. Oertli uses the benefits of fluidics based on physics to control flow and vacuum with the aim to achieve smooth followability and high holdability. Due to longitudinal tip movements, the occluded fragments absorb the ultrasound energy and are then efficiently aspirated. A stable anterior chamber is facilitated by an infusion capacity that is seven times higher than the outflow capacity, which helps to maintain a stable intraocular pressure.

---

### **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
- 

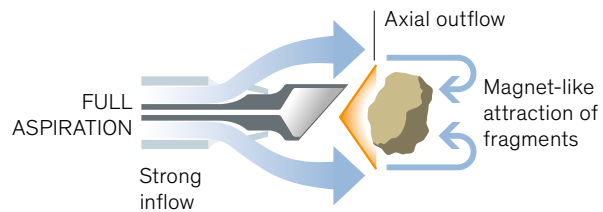


JUST  
42  
GRAMS

# EASYPHACO® TECHNOLOGY

## 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.



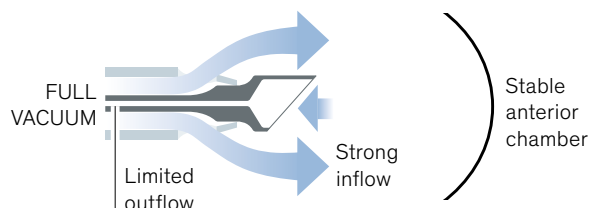
## Smooth fragment aspiration

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 stable anterior chamber is facilitated by an infusion capacity that is seven times higher than the outflow capacity, which helps to maintain a stable intraocular pressure.



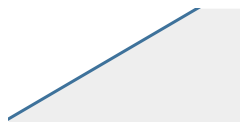
# EASYPHACO® TECHNOLOGY

## Phaco-modulation

The CataRhex3 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.

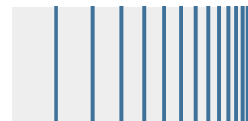


Continuously linear

## Femto aspiration

### BURST mode

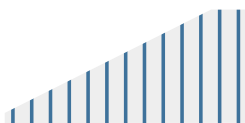
The Femto laser can do a lot but it can't aspirate nucleus and cortex or polish the capsule. But this is where the CataRhex3 is in its element! The Burst mode can reduce the phaco energy down to zero to aspirate pre-fragmented nuclei. CataRhex3 is an ideal partner for every Femto laser!



BURST mode

### 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

# IRRIGATION / ASPIRATION

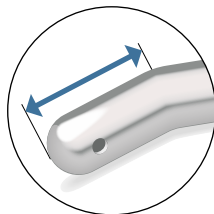
## I/A with a sophisticated Safety Design

The I/A instruments and tips with Safety Design have a long shaft to allow sub-incisional access. The small aspiration opening support occludability and anterior chamber stability. The well thought-out positioning of the aspiration opening is designed to prevent unintentional grasping of the capsular bag. Especially together with the SPEEP pump, which allows control of flow and vacuum, the Safety Design of the I/A instruments is an ideal combination. The reusable I/A instrument set is also available with roughened tips for capsule polishing.

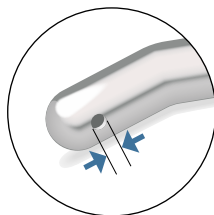
### Advantages of I/A with Safety Design

- Developed to ensure stable anterior chamber
- Long shaft for sub-incisional access
- Supports rapid occludability
- Ideal in combination with the SPEEP pump
- Available for incisions from 1.6 mm to 2.8 mm

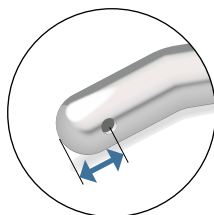
**Long shaft** to allow sub-incisional access.



**Small aspiration opening** supports the occludability during aspiration.



**Well thought-out positioning of the aspiration opening** should prevent unintentional grasping of the capsular bag.





# BIPOLAR DIATHERMY

## Precision in bipolar diathermy

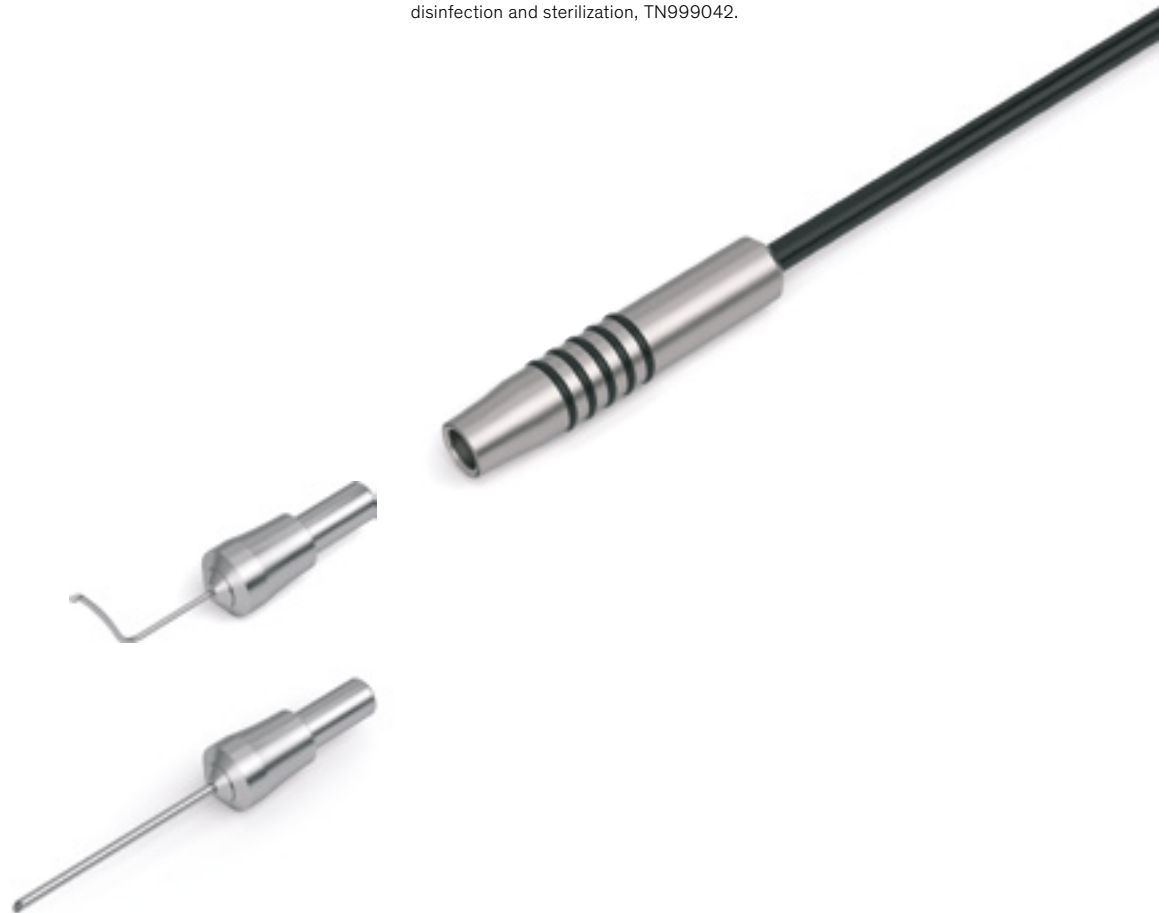
The bipolar diathermy function of the CataRhex3 has a number of applications such as the unique capsulotomy technique (page 14). Handpieces and the easy to attach tips are manufactured from high-quality titanium.

---

### Advantages of HF-bipolar diathermy

- One function for different applications: Oertli capsulotomy for easy capsule opening and regular diathermy
  - Local effect thanks to bipolar technology
  - Manufactured from high-quality titanium for sustainable reuse\*
- 

\* Instructions for reprocessing reusable instruments, cleaning, disinfection and sterilization, TN999042.



# ANTERIOR VITRECTOMY

## Vitreous body removal

Thanks to the integrated compressor, Oertli's CataRhex3 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
  - Continuously open port provides less traction force
  - Up to 2400 cuts/minute depending on the cutting instrument
  - Available in 20G, 23G and 25G
- 



# CATARHEX 3® — PERFORMANCE SPECTRUM

## System

---

### Fluidics system

- Peristaltic pump
- SPEEP 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
- 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 cuts/min
- Single incision
- Irrigation/Aspiration/Cut
- Irrigation/Cut/Aspiration

MOBILITY

# CATARHEX 3® – UNBEATABLY COMPACT



CataRhex3 – the surgical platform that fits into a pilot case but is nevertheless a power house.

# MAKING THE DIFFERENCE IN EYE SURGERY

Oertli makes the difference. With surgical devices, instruments and consumables of Swiss 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 passionate service provision and 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.







#### **Our reliable Team in the U.S.**

Oertli Instruments Inc. offers a comprehensive range of medical equipment installation and training services. It specializes in providing installation and application training and support to sterile and non-sterile personnel. One of Oertli's essential services is providing application training and support for surgeons using the easyPhaco technology.

It includes on-site and online training programs to aid surgeons in using and optimizing Oertli equipment. Oertli Instruments Inc. also offers demo services, including on-site setup and support for demonstrations of the easyPhaco technology.

#### **Trademark notices**

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#### **References**

Oertli data on file QMF 19.31



# 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.**



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