World class phaco – small and beautiful

Higher intelligence

CataRhex® swisstech®

oerthi
SWITZERLAND
Progress is the path from the primitive to the simple, via the complicated.

Wernher von Braun, 1912-1977

Is there more elegant proof than CataRhex®
SwissTech?
More intelligent technology
- Never before has so much intelligence, technology and capability been concentrated into such a small space.
- Direct processor control instead of a fickle PC operating system.
- Intelligent physical concepts instead of expensive sensor technology.
- Reliable control elements instead of a display monitor.
- Varying intensities of ultrasound for every degree of hardness instead of unorthodox emulsification methods.

More intelligent design
- Rolling 107 kg of weight (Alcon Infiniti) into the operating theatre to remove 200 mg of lens material? CataRhæx® SwissTech is portable, only weighs 5.6 kg and attaches to every infusion stand.
- DirectAccess® responds to button actuation without the need for a multi-level user menu.
- The stability of the I/A system does away with the need to change the bottle height.
- A tubing set replaces the cassette.
- Upgradeable to a posterior segment system.

More intelligent solution
- CataRhæx® SwissTech will fit into the smallest operating theatre.
- Its simple operation hardly requires any training.
- It requires less assistance thanks to a multifunction pedal.
- The sensational pump system speeds up operating times.
- Purchase and maintenance is less costly.
- Its portability enables it to be used at different operating venues.
- The pressure sensor incorporated in the tubing set ensures total sterility.
Making the best techniques available to everyone everywhere
CataRhex® owes its worldwide success to the conviction that the best ophthalmic surgical techniques need to be accessible everywhere and to everyone. Not an easy task. But we didn’t make any compromises. That’s why the CataRhex® is now used in over 80 countries. In high volume surgery as well as in university hospitals, in modern outpatient departments as well as in lesser developed areas.

SwissTech represents the second generation of this extremely reliable and successful surgery console. A surgical appliance that has proven its value in over a million operations has now been further improved. The I/A system with non-contaminating pressure measurement is entirely new. It, together with the more sophisticated phaco control using CMP (cool micropulse phaco), represents the leading-edge of technology. CataRhex® SwissTech is a match for any larger piece of equipment – both in terms of comfort, functions and safety as well as in respect of the operation result. But above all else – when efficiency is the benchmark.

CataRhex® SwissTech is a state-of-the-art phaco system with all of the functions necessary for modern anterior chamber surgery:

- Irrigation/aspiration
- Continuous irrigation
- Multi-mode phaco
- Occlusion-mode phaco
- CMP cool phaco
- Bipolar diathermy
- High-speed vitrectomy
- Bipolar capsulotomy
- Bipolar glaucoma surgery

CataRhex® SwissTech is based on an innovative design concept, which offers particular advantages compared with conventional phaco systems:

- Genuine portability
- Unequalled lightness and compactness
- Fits into a pilot case
- Able to be mounted directly onto an infusion stand
- Simple tubing system with integral sensor
- Space-saving multifunction pedal, can be moved by foot

CataRhex® SwissTech has a particularly simple DirectAccess, control surface which ensures immediate access to every function:

- Fast and simple unit preparation
- Short change-over times between operations
- Simple to use, short learning phase
- Rapid programming and call-up of multi-mode programs
- Ergonomic control panel with bright displays and distinct push buttons
- Background programming with ParaProg

Uncompromising Oertli quality!
Like every Oertli product, the CataRhex® SwissTech represents the ultimate in elegant design and advanced technology. These are backed up by Oertli’s unmatched quality and uncompromising development standards.

CataRhex® SwissTech can be used in conjunction with all Oertli surgical instruments, including the particularly ergonomic TITANO range.

DirectAccess® control: faster and simpler than any screen
An outstanding fluidics system
Immediate vacuum generation
The SwissTech pump system is way ahead of the competition! It practically achieves the values of a modern venturi system. Only fractions of a second are needed to establish a vacuum.

Perfect flow control for aspiration
Whether only very gentle or full power suction is required, the flow always remains under precise pedal control with the SwissTech. Even at the lowest flow rates, no noticeable rolling effect exists.

Contamination-free pressure measurement
The patented pressure measurement system rules out any contact with the sensor by the aspiration fluid.

Stable anterior chamber
The application of correct physical principles and the elimination of air from the fluidics system are the key elements underpinning the high chamber stability of the SwissTech. It allows you to employ the SwissTech’s high vacuum and flow rate levels without a problem in modern surgical techniques.
swisstech*
Total ultrasound control
Ultrasound technology for phaco emulsification has made decisive progress in recent years. Oertli has played an important part in this development. That’s why CataRhex®SwissTech offers you the very latest technology. Alternative methods like laser, Aqualase, Neosonix (Alcon, Fort Worth, USA), sonic and even rotating systems offer neither medical nor economical advantages. Nothing comes close to the elegance of ultrasound, which can be used for all degrees of hardness! Even for a refractive “clear lens exchange”.

**Low energy – highly effective**
The latest methods of phaco power control aim to reduce the emitted ultrasound energy, prevent warming of the phaco tip, intensify the holding force of drawn in lens parts and make the infusion sleeve (CMP) redundant. All of this should function equally well for hard nuclei as well.

**Occlusion mode phaco**
In occlusion mode, the adjustment parameters of flow, phaco output and modulation method are vacuum dependent. Once a particular vacuum value is reached (occlusion), the desired parameters (e.g. pulse or reduced output) are immediately activated.

CataRhex®SwissTech offers four methods of output modulation.

**Continuous linear**
The standard method. Very efficient. The surgeon needs to set the output level himself. The phaco intensity corresponds to the degree of pedal deflection.

**PULSE modulation**
Reduces the emitted ultrasound energy. The pulse frequency (up to 40 Hz) and cooling factor are freely selectable and not linked to the pedal position. The pulse intensity corresponds to the pedal position.

**BURST modulation**
Reduces the emitted ultrasound energy. The duration and intensity of the bursts (packets of energy pulses) are freely selectable and not linked to the pedal position. The pause between bursts is controlled by the pedal. The more the pedal is depressed, the shorter the pauses become.

**Cool Microincision Phaco (CMP)**
Genuinely cool phaco under all conditions – even at 100% phaco output! The pulse frequency (up to 40 Hz) and cooling factor are freely selectable within the CMP boundaries and remain unaffected by the pedal position. The pulse intensity corresponds to the pedal position. Ideal for MICS.

**CMP technology**
**Cool ultrasound at the press of a button**
In CMP mode, the ultrasound is emitted in precisely controlled micro-pulses. This decreases the amount of energy reaching the eye. However, the emulsification effect remains undiminished. It also suffices for hard, brown nuclei. Here are the advantages of CMP technology:

- Cold tip, no burns
- A quiet anterior chamber
- Clear cornea on the first post-operative day
- Ready for MICS with 1.5 mm IOL
- No induced astigmatism

The advantages of CMP technology can already be used for standard phaco techniques. Cool Microincision Phaco with a bimanual technique is particularly appealing. Implants for MICS are on the advance. You remain at the forefront with CataRhex®SwissTech!

**COOL phaco at the press of a button**

In the CMP setting, the phaco handpiece at its full output can be held by its bare tip with the fingers only. The most impressive proof of Cool Phaco!
CataRhex® swisstech®

Weight: 5.6 kg (pedal 2.7 kg)
External dimensions: 220 mm wide, 245 mm high (carrying handle + 50 mm), 154 mm deep (mounting clamp + 100 mm)
Mains voltage: 100-240 VAC/50-60Hz/200VA
Standards: IEC 601-1, EN60601-1
EMC: EN 60601-4-1
Design: www.oco-design.de
Highest performance in the smallest space
I/A: Safe and fast capsule cleaning
Irrespective of whether you work bimanually or with a combined I/A instrument, CataRhex SwissTech offers optimal suction and safety. Separate settings for cortex removal and capsule cleaning can be called up by pedal. The new proportional override function enables you to suck up larger cortex particles accurately and quickly.

Proportional override
A low vacuum near the capsule, and high suction for larger cortex particles: seemingly a contradiction. Proportional override is the solution!

You specify a safe vacuum value that is never exceeded in pedal setting 2 for every I/A program. Should any cortex clog the tip, then pedal setting 3 provides an increased vacuum of up to 600 mm Hg proportional to the pedal position at an unchanged aspiration flow rate.
Bipolar functions: more than diathermy alone!
Regardless of the clear cornea technique, recourse to a modern bipolar function remains indispensable! Oertli has been a pioneer in this field since 1973 (Prof. Klöti). CataRhex®SwissTech offers the newest developments: diathermy and HF-CUT.

- Linear macrohaemostasis
- Linear endodiathermy
- Coaptation of the conjunctiva
- Bipolar capsulotomy
- Glaucoma surgery

The haemostasis applications can be activated instantly by deflecting the pedal laterally (instant diathermy) or via the DIA button.

The HF-CUT button provides access to the capsulotomy and glaucoma functions. HF-CUT stands for tissue dissection, with simultaneous haemostasis.

Klöti HF capsulotomy: safety in difficult cases
It’s not frequently discussed, but used by many! In spite of capsulorhexis and capsule staining agents, Klöti HF capsulotomy continues to remain a popular method that has been proven in hundreds of thousands of cases since 1991. Why? Because HF capsulotomy melts open the capsular bag. Tearing with forceps or a needle is unnecessary. Gliding across the tissue with the capsulotomy tip will suffice. Even under the iris! Extensive clinical experience has shown that the characteristics of the resulting capsule edge satisfy every intra-surgical and long-term requirement.

The most important indications for HF capsulotomy are:

- No red reflex
- Hypermature cataract
- Traumatic cataract
- Intumescent cataract
- Juvenile cataract
- Small pupil

Capsule staining (Vision Blue) only improves visibility, but bipolar HF capsulotomy opens the capsule in spite of poor sight!

HF diathermy in glaucoma surgery
In filtering glaucoma surgery, HF-CUT can be used for tissue separation with simultaneous haemostasis. However two entirely new ab interno procedures seem particularly promising: STT and IDK

STT Sclerothalamotomy
(Bojan Pajic, Grigoris Pallas)

In this method, direct access is established between the anterior chamber and Schlemm’s canal, thereby circumventing the drainage resistance of the trabeculum. The diathermal STT glaucoma tip is guided through a 1.2 mm corneal paracentesis and a 0.3 mm cavity (thalamus) in the sclera is formed opposite the incision using diathermy. A total of 3 paracenteses and 3 thalami are made.

IDK Intrastromal diathermal keratostomy
(Svend V. Kessing)

The intervention comprises 3 steps: a corneal incision parallel to the limbus, a corneo-scleral tunnel incision in the subconjunctive area and finally, the IDK glaucoma tip is used to make a diathermal tunnel incision up to Schwalbe’s line.
CataRhex® with Oertli Vitrex – a complete vitreoretinal system
Vitrectomy: also for the posterior chamber
At Oertli, no differentiation is made between anterior or posterior vitrectomy. The electrically-operated SUS cutter will accomplish everything from an exact, single cut through to efficient, high-speed operation at 1200 cuts per minute, precisely as directed by pedal. It is even possible to have a suction/cutting or a cutting/suction sequence. The cutting heads have a variable opening and are all hand finished. This explains the unique cut quality.

Three different vitrectomy programs are available per surgeon. These can be called up by pedal. Used in conjunction with the Vitrex module, vitreoretinal surgical intervention becomes possible.

Upgrade to a vitreoretinal system
CataRhex® SwissTech can be combined with the Vitrex unit. This will generate a vitreoretinal system with comprehensive functions: I/A, phaco, diathermy, vitrectomy, halogen light, air pump and silicone injection/aspiration. All of these functions are controlled with the CataRhex® pedal.

Programming and parameter assignment
The entire range of features of the CataRhex® SwissTech is available to nine different surgeons. Each surgeon has his own memory (3 x phaco, 2 x I/A, 3 x VIT) and the most-recently used values and settings for the remaining functions are retained. Furthermore, every surgeon can enter his own presets in ParaProg - from the display language, to the kind of audio signals, through to adaptation of the pedal functions. In this way, CataRhex® SwissTech permits full individuality for all users.

The control pedal: complete surgeon control
Four movement domains facilitate the precise linear control of all instruments, the retrieval of stored values and the switching on and off of functions. The pedal is waterproof, requires minimal space, can be shifted by foot and guarantees fatigue-free actuation.
The complete accessory package – made by Oertli

For the complete overview visit www.oertli-instruments.com
## Ordering information

**Unit**
- VC820100S CataRhex® *SwissTech* Basic
- VC820100SP CataRhex® *SwissTech* PRO CMP
- VEB20001 CataRhex® infusion stand
- VEB20002 Instrument tray for infusion stand
- VEB20003 Carrying case (pilot case)
- VEB20004 Mounting set for Vitrex
- VCB30200 Vitrex extension unit

**Tubing sets**
- VV621003 Tubing set, autoclavable, 3 pieces
  - Validated for 10 repeated preparations
- VV621010 Phaco pack, sterile, disposable
  - pack of 10 pieces
- VV621011A Phaco pack, sterile, disposable
  - with tubing set, tip, sleeve, test chamber,
    pack of 10 pieces

**Phaco**
- VG800011 Hexadisc® TITANO phaco handpiece
- VV8000315 SCT Excellerator tip 15°
- VV8000330 SCT Excellerator tip 30°
- VV603200 Silicon infusion sleeve
- VV803100 Test chamber

**CMP**
- VV800630 CMP 19 G phaco tip 30°
- VV800730 CMP 20 G phaco tip 30°
- VE656100 CMP irrigating chopper 19 G
- VE656120 CMP irrigating chopper 20 G

**Vitrectomy**
- VE103100 SUS vitrectomy handpiece, electric, autoclavable
- VV103006 SUS cutting head, sterile, disposable
  - pack of 6 pieces

**Diathermy/HF CUT**
- VE201712 Diathermy handpiece, autoclavable
- VE201722 Diathermy eraser tip
- VE201723 Endodiathermy tip 20 G
- VE201724 Endodiathermy tip 20 G / 25 G
- VE201726 Capsulotomy tip
- VE201750 STT glaucoma tip
- VE201755 IDK glaucoma tip
- VE209302 Bipolar forceps, bent

**I/A**
- Monomanual
  - VE655000 I/A handpiece plug-on
  - VE655035 Aspiration tip straight
  - VE655535 Aspiration tip 45°
  - VE655435 I/A tip straight
  - VE655235 I/A tip 45°

- Bimanual
  - VE654100 I/A bimanual set
  - VE654101 I/A bimanual set, roughened
The best buy – an exacting package for exacting results
**SwissTech Basic: All essential functions**

**SwissTech PRO CMP: The complete kit**

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<tr>
<th>Feature</th>
<th>SwissTech Basic</th>
<th>SwissTech PRO CMP</th>
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<tbody>
<tr>
<td>Surgeon memories</td>
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<td>PULSE mode</td>
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<td>CMP</td>
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<td>Vitrex ready</td>
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CataRhe®SwissTech can be used in conjunction with all Oertli surgical instruments, including the particularly ergonomic TITANO range. All items can be ordered individually, in accordance with your needs and preferences. The best buy, however, is a CataRhex®SwissTech package, which comes complete with every accessory.

**Portable SwissTech phaco unit**

Includes the base unit with control pedal, connection cable, usage instructions, a pack of tubing sets (either VV621003 or VV621010 according to preference) and a choice of either an infusion stand VE820001 or the carrying case VE820003.

**Cataract set**

- (includes sterilisation container VE904705)
- VG800011 Hexadisq® TITANO phaco handpiece, 6-piezo model
- VV800330 Excellerator tip, titanium, 30°
- VV603200 Silicone sleeve (2 pieces)
- VV803100 Test chamber
- VE800100 Titanium key for phaco tip
- VE655000* TITANO I/A handpiece
- VE655235* I/A tip 45°
- VE655435* I/A tip, straight
- VE201712 TITANO diathermy handpiece, short
- VE201726 Capsulotomy tip
- VE201722 Diathermy eraser tip
- VE203902 Bipolar forceps

**Vitrectomy set**

- (includes sterilisation container VE904705)
- VE103100 SUS Vitrectomy handpiece with a pack of VV103006 cutting heads (6 pieces) sterile, for single use
- VG601351 SUS irrigation sleeve

CataRhex® package with one vitrectomy set, plus

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<th>SwissTech Basic</th>
<th>SwissTech PRO CMP</th>
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*or, optionally a bimanual I/A set VE654100