

AQUARIUZ

Solid-State Wet Ablation Laser



The Future Is Wet Ablation

Reimagining the practice of the future through technology is at the heart of every Ziemer device.

Noisy operation, pungent smells, dry corneas, temperature and humidity sensitive equipment have been a part of daily traditional excimer operation. With AQUARIUZ Ziemer aimed to change this and deliver a completely new experience to the surgical theatre.

Open your eyes to a new story in refractive surgery, one based on a future of quiet, scentless, hydration preserving solid-state wet ablation.

“Ziemer’s vision has been to trailblaze its own path and deliver smart, innovative and precision lasers from our home in Switzerland. AQUARIUZ is a testament to this vision and as a solid-state wet ablation laser I believe it will reshape the future of refractive surgery. There are so many benefits to our solid-state technology from gasless operation, intuitive workflow or simply offering the smallest footprint on the market. Technology aside, natural corneal state retention is likely one of the greatest benefits the AQUARIUZ provides to both surgeon workflow and patient comfort.”

— Frank Ziemer CEO





- + Solid-State Laser
- + Gasless Operation
- + Less Affected by Humidity & Temperature
- + Natural Corneal Hydration
- + Sound & Scent Suppressed Ablation
- + Superior Hinge Protection
- + Ziemer Refractive FlowSuite
- + Swiss Made



Prof. Bojan Pajic

"The AQUARIUZ opens unimagined possibilities in corneal refractive surgery. Our initial clinical results demonstrate very good safety and efficacy. Water has a low absorption in the operating wavelength range of the AQUARIUZ. In this sense the ablation process is less susceptible to environmental influences, less dependent on tissue hydration and gentler on tissue interaction. Other advantages include stable, homogeneous beam energy, longer operating life of the laser source, lower power consumption and, above all, it runs more quietly than its excimer counterparts."

Cutting Edge Technology



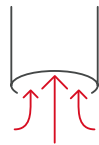
Groundbreaking Corneal Hydration Management

Operating within the novel wavelength range of 205-215nm offers significantly less absorption in water compared to 193nm of today's excimer lasers. This uniquely reduces the risk for corneal dehydration during the flap opening and ablation process. With the AQUARIUZ, meticulous monitoring of flap open times is a thing of the past. Less absorption in water also means less dependence on the humidity of the operational environment. Humidity dependent ablation results are less of a concern, and this equates to more time for surgeons to focus on patient care.



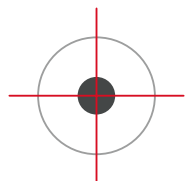
Gasless Ablation

By developing the latest solid-state laser technology, Ziemer eliminates the need for gas. Practitioners no longer need to purchase, store, maintain and monitor the gas supply required by traditional excimer lasers.



Advanced Plume Removal System

With Ziemer's advanced plume removal system the AQUARIUZ eliminates unwelcoming smells associated with the laser driven decomposition of tissue. Additionally, the plume system benefits surgeons by effectively removing particle debris that is ejected during the ablation process.



Auto Ablation Centration

Placing centration selection in the hands of practitioners was of high importance. Ziemer has integrated the option for ablation centration on the 1st Purkinje Reflex, in comparison to the majority that only centrate on the pupil. While the patient follows the fixation light, the system auto detects limbus, pupil and Purkinje Reflex. In addition, practitioners can select individually auto pupil or auto 1st Purkinje detection independently of one another via the user-friendly touch screen.



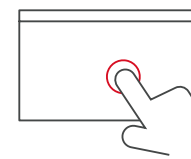
Superior Hinge Protection

The Ziemer software development team has integrated a never-before-seen hinge protection option. Innovative features, such as the software guided Hinge Protection ensures recognition of the hinge and prevents the ablation laser from ablating the flap. The benefit is peace of mind for surgeons that only the relevant area for refractive correction is treated.



Natural View Color Eye Tracker

AQUARIUZ's color eye tracker technology captures feature-rich images that seamlessly align with the natural view through the Leica microscope. The 1,000 Hz Eye-Tracker system, with 6D eye tracker and ultra-low latency, operates at double the speed of the laser's repetition rate. Combined with exceptionally low latency of 1ms, limbal eye tracking, free of pupil shift artifacts, delivers state-of-the-art eye tracking performance and next-level precision.

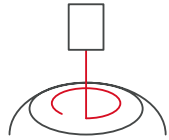


Intuitive Touch Screen Workflow

As a Swiss pioneer that has developed a multitude of technological advancements, Ziemer delivers industry leading, user-friendly interfaces (GUIs) with every device. The intuitive user interface is easy to use thanks to its simple touch screen navigation. Additionally, practitioners can also opt to use an external keyboard. Many of the ablation parameters are either loaded automatically or can be easily adjusted to accommodate individual surgeon workflows.

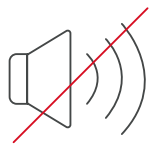


Next-Level Patient & Surgeon Experience



Scentless Ablation

Excimers of the past are widely known for generating unwelcoming pungent smells in the operating theatre. These smells are often noted by patients and could potentially raise questions or concerns as to the source. The novel wavelength of the AQUARIUZ decomposes corneal tissue differently and with less odor. This means that the natural moisture of the cornea can be retained and in conjunction with our advanced plume removal system the AQUARIUZ eliminates unwelcoming smells associated with traditional excimer lasers.



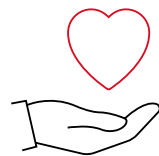
Noise Suppressed Ablation

Solid-State technology employed by AQUARIUZ results in a completely different auditory experience for both patients and surgeons alike. In comparison to traditional excimer lasers the AQUARIUZ laser source does not generate high voltage discharges responsible for the piercing sound of excimer lasers. Eliminating disturbing sounds during surgery serves to enhance patient experience and reduce noise related stress to the surgical team.



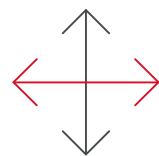
Non-Toxic

As a gasless system, AQUARIUZ presents a completely non-toxic, non-Agron Flouride alternative to traditional excimer ablation lasers. Practitioners completely remove clinic operational risks associated with toxic gas storage and use as well as significantly reduce upkeep and operational costs.



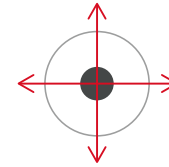
Enhanced Patient Comfort & Safety

AQUARIUZ prioritizes patient comfort and safety by minimizing corneal dehydration and time in surgery. The appearing water film on the cornea makes it easier for the patient to fixate during the ablation process since the vision is less blurred. Furthermore, the novel wavelength helps retain natural corneal hydration and this means surgeons do not need to dry the eye in Ziemer observations. Therefore, patients could potentially experience more comfort and expedited healing.



FEMTO Z8 Flap Creation Patient Positioning

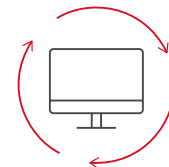
Optimizing the treatment workflow, the AQUARIUZ bed can be used not only for ablation treatment but also for patient flap creation. The Ziemer FEMTO systems are the smallest and most mobile in the market, and thanks to their innovative design, the Ziemer FEMTO lasers can be easily moved into position before the AQUARIUZ ablation process.



Auto Bed Positioning

To save precious time and optimize comfort the AQUARIUZ bed can be programmed to automatically position patients in the surgeons desired horizontal and height planes. Placing the patient on the bed is made easy thanks to its horizontal swivel. From there, clinical staff can choose from a pre-set positioning profile or fine tune positioning via an electronically controllable joystick with up to 75 mm of adjustment in the X/Y direction and 170 mm of adjustment in the vertical plane position. The headrest is also electronically tiltable. An extra point of adjustability is the headrest that can be electronically tilted for surgeon positioning.

Elevated Excellence



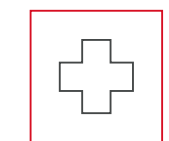
Ziemer Refractive FlowSuite

The Ziemer FlowSuite is a holistic approach to clinical workflow and a full suite of connected devices. In synergy with our GALILEI diagnostic devices and femtosecond lasers the AQUARIUZ will offer ophthalmologists a comprehensive suite of diagnostic and treatment tools unparalleled in the refractive vision correction industry. This integration exemplifies our commitment to providing holistic solutions that address the needs of refractive surgery.



Training & Education

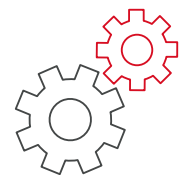
Ziemer's headquarters in Port, Switzerland houses an exclusive training centre, where we offer in-depth training for surgeons and clinicians on our suite of devices and integrated software. Our aim is to enable you to succeed and to ensure practitioners and staff are equipped with the training and confidence to maximize clinic productivity.



Swiss Made

Ziemer is the Swiss leader in ophthalmic devices, with engineering, design, and production all in-house. Listening and understanding to what practitioners need to elevate their outcomes and patient experience is what drives us. Producing at our headquarters enables us to react on demand and is exemplified by our pursuit to bring AQUARIUZ to market. With a long history of pioneering new and innovative technologies, Ziemer is committed to surgeons, their patients, and delivering Swiss Made excellence.

AQUARIUZ Specifications



AQUARIUZ is a cutting-edge ablation laser that marks a significant leap in refractive surgery technology. Boasting the smallest footprint on the market, AQUARIUZ allows for easy integration into any clinical setting, saving valuable space. Moreover, its next generation wavefront optimization is designed to maintain the natural shape of the cornea, promoting better visual quality post-surgery.

AQUARIUZ represents a quantum leap in ophthalmic procedures, setting new standards for both practitioner efficiency and patient satisfaction.

- Source: Solid State
- Wavelength: 205-215
- Repetition Rate 500 Hz
- Eye Tracker 6D
 - 1000Hz
 - XYZ
 - Gaze
 - DCC
 - SCC
- Footprint
 - Including bed
 - Width 129.3 cm (50.9 inches)
 - Length 187.5cm (47.8 inches)
 - Without Bed
 - Width 55 cm (37.1 inches)
 - Length 121.5cm (47.8 inches)
- Aspheric Optimized Profiles



CE Certification

The AQUARIUZ ablation laser has proudly achieved CE mark clearance, a testament to its adherence to the highest safety and performance standards required in the European Union. It's the first medical device registered solid state laser, and this underscores the AQUARIUZ's innovative design and technological superiority. Designed and manufactured in Switzerland, the AQUARIUZ combines the latest in ablation laser technology with Ziemer's renowned engineering excellence.



Dr. Harald Gäckle

"One of the most impressive features of the AQUARIUZ laser is its gasless operation and how it's non-dependent on room temperature or humidity. This stability ensures consistent and reliable results, eliminating the variables that could previously affect the accuracy of procedures. Additionally, not having the cost, storage and sourcing issues associated with gas is game-changing."

With the AQUARIUZ, Ziemer can offer the widest range of application solutions on the market

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|-------------------------|-------------------------|
| ✓ Ablation Laser | ✓ Femto Laser Cataract |
| ✓ Femto Laser LASIK | ✓ Femto Therapeutic/KPL |
| ✓ Femto Laser Lenticule | ✓ Suite Offering |

Your Vision Is Our Vision

Ready for the future of Wet Ablation?

Contact us today to learn more about how
AQUARIUZ can elevate your practice today
and into the future.



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Disclaimer: The AQUARIUZ is CE marked but not yet FDA cleared for use in the United States. For some countries, availability may be restricted due to regulatory requirements. Please contact Ziemer for details.