

JUST GO

The CATALYS® System

TAKE THE
FAST TRACK
TO SURGICAL
EXCELLENCE



CATALYS®
Precision Laser System

Johnson & Johnson VISION

Put Your Practice in the Premium Fast Lane WITH THE CATALYS® SYSTEM

It's all ahead of you — head-turning clinical capabilities, premium growth and a gentle experience.



Outstanding Clinical OUTCOMES

Don't let opportunity pass you by.
Seize your premium future with
the CATALYS® System.



Seamless Practice INTEGRATION



Premium Patient EXPERIENCE

MAKE YOUR MOVE.



INDICATIONS: The OptiMedica® CATALYS® Precision Laser System is indicated for use in patients undergoing cataract surgery for removal of the crystalline lens. Intended uses in cataract surgery include anterior capsulotomy, phacofragmentation, and the creation of single-plane and multi-plane arc cuts/incisions in the cornea, each of which may be performed either individually or consecutively during the same procedure. See Important Safety Information continued on page 16.

GO CONFIDENTLY

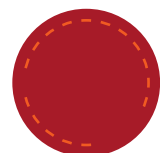
In the pursuit of excellence, the **CATALYS®** System is your ultimate guide. With its unrivaled precision and outstanding performance, you can strive for more than just standard results — you can pursue outstanding outcomes.

HIGHLY ACCURATE AND RELIABLE CAPSULOTOMIES

- Consistently higher precision and accuracy compared to competing laser systems¹
- Maintains near-perfect size and shape postoperatively²

STRONG, RELIABLE CAPSULOTOMIES

- Twice as strong as manual capsulotomies²
- True non-applanating interface does not demonstrate corneal folds³



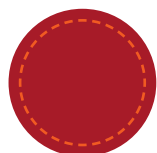
INCOMPLETE CAPSULOTOMY
Corneal folds are associated with incomplete capsulotomies and have been frequently observed with applanating interfaces.³



Highest demonstrated rate
of complete 360° capsulotomies⁴



Complete capsulotomy
in less than
one second⁵



COMPLETE CAPSULOTOMY
Since the **CATALYS®** System patient interface does not demonstrate corneal folds, it does not interfere with laser delivery.³

PRECAUTIONS: The **CATALYS®** System has not been adequately evaluated in patients with a cataract greater than Grade 4 (via LOCS III); therefore no conclusions regarding either the safety or effectiveness are presently available. *See Important Safety Information continued on page 16.*



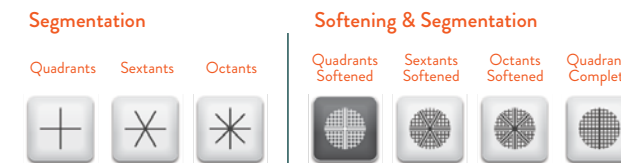
MULTIPLE CENTRATION TYPES, including scanned capsule, for effective lens centration⁶



POWERFULLY EFFECTIVE FRAGMENTATION

- Complete softening and segmentation⁷
- Optimized fragmentation volume with automatic lens tilt management
- Multiple fragmentation patterns
- High-quality fragmentation, even in dense cataracts^{8*}

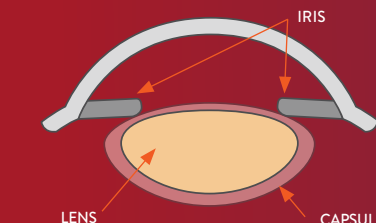
CUSTOMIZABLE FRAGMENTATION OPTIONS, with an adjustable softening grid for complete softening and segmentation⁷



*Safety and effectiveness have not been established for cataracts higher than Grade 4.

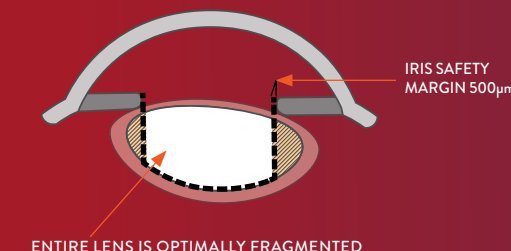
OPTIMIZE FRAGMENTATION WITH LENS TILT MANAGEMENT

UNTILTED LENS



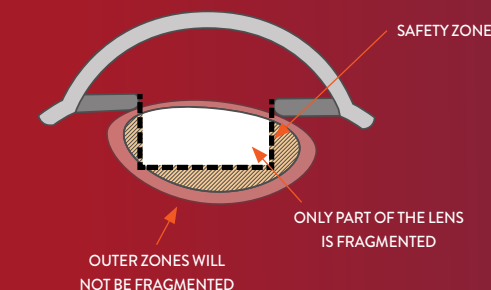
TITLED LENS WITH TILT MANAGEMENT

The **CATALYS®** System detects lens tilt and adjusts the safety zone accordingly.



TITLED LENS WITHOUT TILT MANAGEMENT

If lens tilt is not detected, the volume of lens fragmentation is not optimized.



GO ACCURATELY

The **CATALYS®** System offers highly precise and personalized treatments, including intrastromal and anterior penetrating incisions, allowing you to tailor each procedure and deliver impressive clinical outcomes.

FINE-TUNED INCISION PLACEMENT

- Optimized incision placement and personalization with imaging and image guidance technology
- Wide side-cut angle (anterior) range of 30–150° for anterior penetrating and intrastromal incisions
- Incredible flexibility in incision type and depth for arcuate incisions

Arcuate incisions clinically validated within:

$0.83 \pm 0.66\%$ of intended optical zone⁹

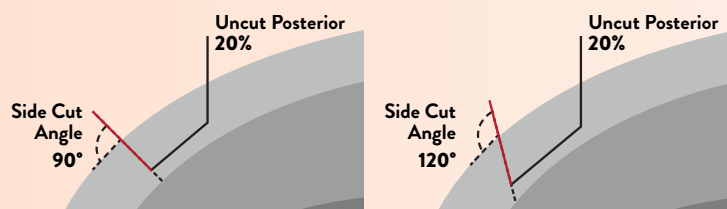
$0.22 \pm 0.20^\circ$ of intended axis⁹

$0.22 \pm 0.29^\circ$ of intended length⁹

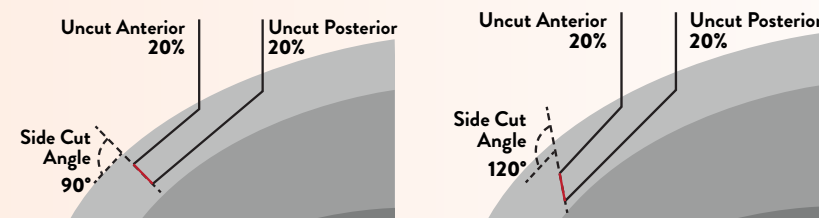
FLEXIBLE INCISION OPTIONS

More personalized and precise surgical procedures.

ANTERIOR PENETRATING INCISIONS



INTRASTROMAL INCISIONS



PRECAUTIONS: Cataract surgery may be more difficult in patients with an axial length < 22 mm or > 26 mm, and/or an anterior chamber depth < 2.5 mm due to anatomical restrictions. See Important Safety Information continued on page 16.



The Laser

The **CATALYS®** System features a femtosecond laser designed specifically for cataract surgery, which is just part of what makes it the most accurate laser cataract surgery platform available.¹

CATALYS® PRECISION LASER SYSTEM ▶ pg 7

PURSUE PREMIUM OUTCOMES

Achieve excellence with a platform engineered for premium results.



Incisions personalized to each patient's unique anatomy



Like manual surgery, **CATALYS®** System procedures result in low capsular tear rates¹⁰



Lower subconjunctival hemorrhage rates associated with non-contact patient interface³



Minimal postoperative corneal edema and inflammation¹¹



Non-applanating patient interface generates a modest IOP increase compared to an applanating interface¹²



Enables fluidics-driven lens extraction

GO BEYOND

Push the boundaries of image guidance with full-volume, 3D, high-resolution, streaming Optical Coherence Tomography (OCT) imaging and **INTEGRAL GUIDANCE** Technology.

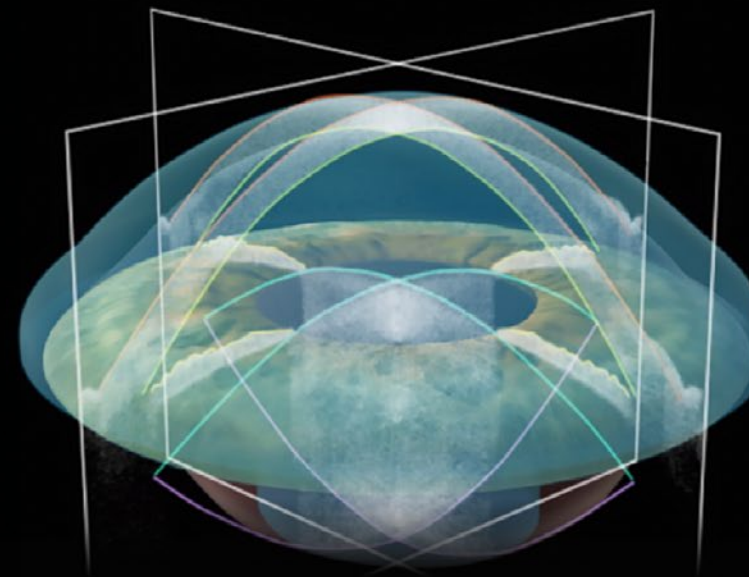
3D OCT IMAGING

- Identifies anterior cornea, posterior cornea, iris, anterior lens and posterior lens
- Performs > 10,000 A-scans to capture high-resolution data for the full volume of the anterior segment
- Displays axial and sagittal cross sections from completed scans
- Refreshes at 0.5–2.0 Hz for real-time visualization of the eye throughout treatment

INTEGRAL GUIDANCE TECHNOLOGY

- Generates accurate pictures of the anterior chamber using 3D OCT imaging data
- Maps incision orientation and depth based on the treatment plan
- Provides safety zones that adapt for lens tilt to maximize lens fragmentation volume

COMPLETED SCANS PROVIDE AXIAL AND SAGITTAL CROSS SECTIONS



CATALYS® PRECISION LASER SYSTEM ▶ pg 9

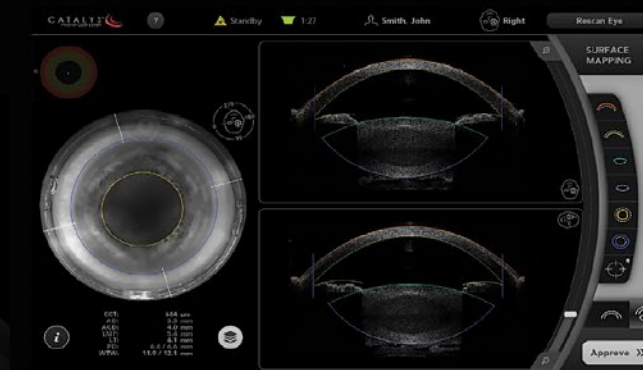
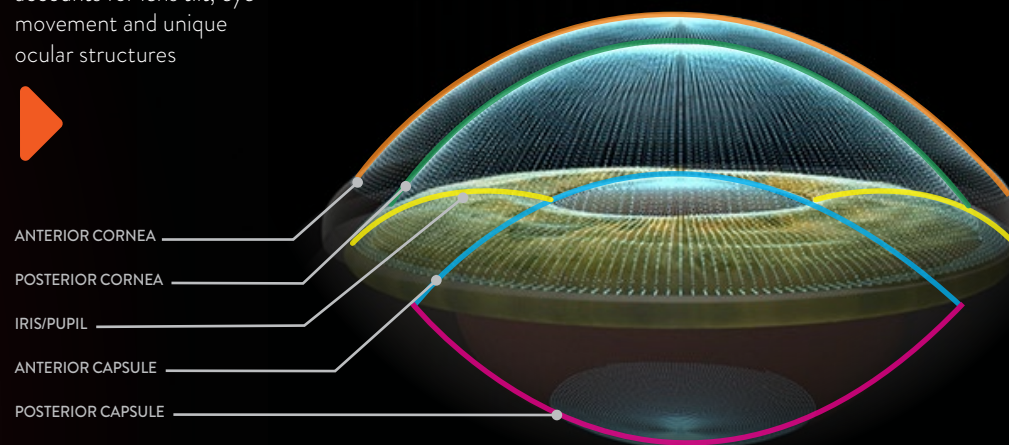
UNTILTED LENS



LENS TILT

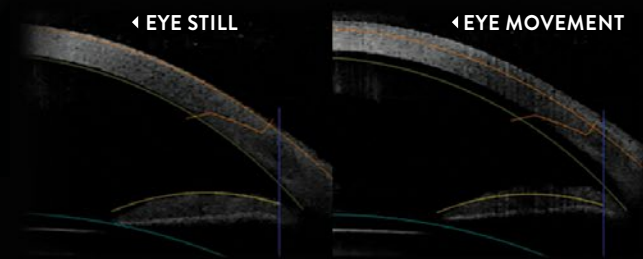


BACK YOUR OUTCOMES with guided delivery that accounts for lens tilt, eye movement and unique ocular structures



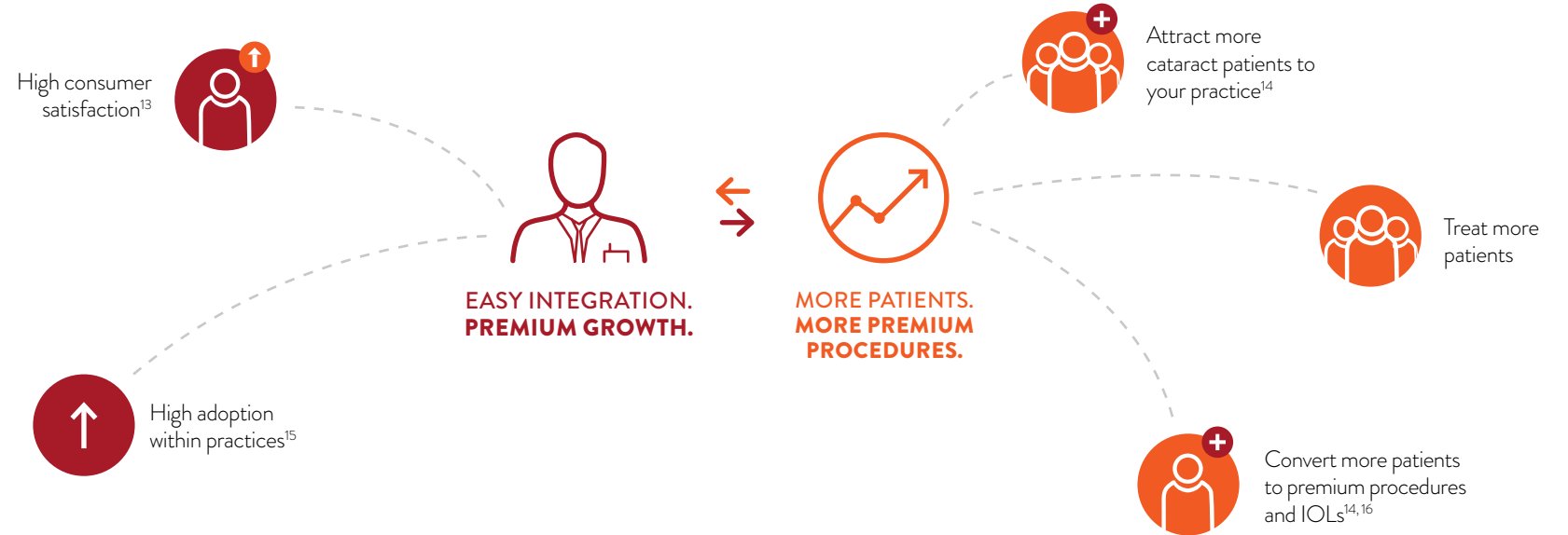
◀ EYE STILL

◀ EYE MOVEMENT



GO FAST

Boost premium conversion with a system designed to seamlessly fit into your practice.



EASY TO LEARN EASY TO LOVE

Seamless implementation, elegant operation. The **CATALYS®** System gets you smoothly from standard to premium with a simple, four-step process.



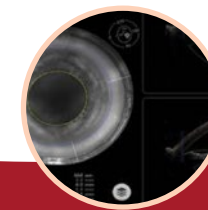
1. JUST PLAN

Start each procedure with simple, template-based treatment plans and surgeon setups for fast, efficient surgical planning and customization.



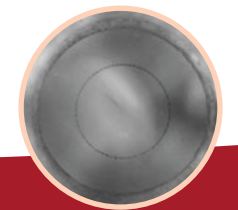
2. JUST ENGAGE

Ensure a quick and gentle procedure with guided docking and the non-applanating **LIQUID OPTICS** Interface, which minimizes IOP rise¹² and does not demonstrate corneal folds.³



3. JUST VISUALIZE & CUSTOMIZE

Review and confirm anatomical landmarks created by high-resolution, 3D OCT imaging. Validate incision placement according to your treatment plan with **INTEGRAL GUIDANCE** Technology.



4. JUST TREAT

Treat with confidence, achieve your surgical plan and experience the **CATALYS®** System's outstanding clinical performance.

PRECAUTIONS: Patients must be able to lie flat and motionless in a supine position and able to tolerate local or topical anesthesia. See Important Safety Information continued on page 16.

GO EASY

When you can deliver a fully personalized, gentle procedure, it's no wonder more cataract patients prefer the **CATALYS®** System.¹⁷

PATIENT-FOCUSED PROCEDURES

- Quick and gentle docking for patient comfort
- Personalized surgical procedure from planning to incision
- Adaptive user interface for outstanding clinical outcomes

*"I have been very impressed with how quickly patients have embraced the **CATALYS®** System and how easily and rapidly I've been able to integrate the technology into my practice. The precision and accuracy are obvious, and patients are clearly benefiting from the enhanced performance that the system provides."*

– Prof. H. Burkhard Dick, MD, PhD
Bochum University Eye Clinic
Bochum, Germany



Non-applanating patient interface offers comfortable, streamlined docking



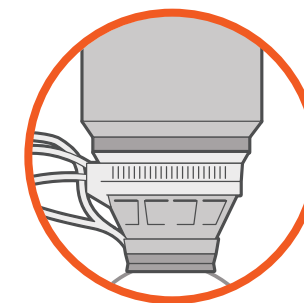
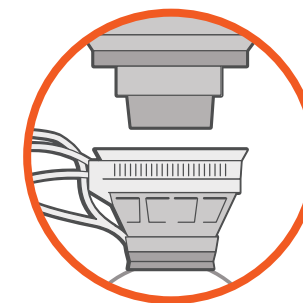
Minimal post-op corneal edema and inflammation¹¹



Gentle, guided docking with reduced forces during treatment



Interface design minimizes scleral contact, reducing post-surgery eye redness³



IT ALL STARTS WITH AN OUTSTANDING INTERFACE

- True non-applanating surface does not demonstrate corneal folds, resulting in outstanding incisions³
- Not contraindicated for patients with glaucoma
- Clear optical path with wide aperture, optimal for corneal incisions



The **CATALYS®** System

The only platform with **two patient interface sizes** so you can deliver a gentle docking experience to **more patients**.*

* This comparison is based on publicly available sources regarding LENSAR® System, LenSx® System and VICTUS® System in the U.S. as of October 2015. They are subject to change at the discretion of their respective manufacturers.

JUST GO

Surgical excellence is just within reach. Make LCS yours for outstanding clinical performance designed to fuel your premium future. Once you get in the LCS fast lane, you'll never look back.



Outstanding Clinical OUTCOMES

- ▶ Most accurate LCS platform¹
- ▶ Complete capsulotomy in < 1 second⁵
- ▶ > 99% complete capsulotomy rate³
- ▶ Complete softening and segmentation⁷
- ▶ Incredibly flexible incision options
- ▶ Automatic lens tilt and cyclorotation



Seamless Practice INTEGRATION

- ▶ More patients and premium procedures^{14,16}
- ▶ High consumer satisfaction¹³
- ▶ Easy on both surgeons and patients¹⁸



Premium Patient EXPERIENCE

- ▶ More patients prefer the CATALYS® System¹⁷
- ▶ Quick, gentle docking and a true non-applanating interface
- ▶ Two interface sizes for the ability to dock more patients
- ▶ Precise, personalized incisions for outcomes that stand apart

REFERENCES

1. O'Meara MC, et al. "Laser Capsulotomy." *Textbook of Refractive Laser Assisted Cataract Surgery (ReLACS)*. Ed. RR. Krueger, et al. Springer, New York: Springer Science+Business Media, LLC 2013. 79-99. Print.
2. Friedman NJ, et al. Femtosecond laser capsulotomy. *JCRS*. 2011 Jul;37(7):1189-98.
3. Talamo J, et al. Optical patient interface in femtosecond laser-assisted cataract surgery. *JCRS*. 2013; 39(4): 501-510.
4. Day AC, Gartry DS, et al. Efficacy of anterior capsulotomy creation in femtosecond laser-assisted cataract surgery. *JCRS*. 2014;40(12):2031-2034.
5. Scott W, et al. Clinical comparison of effect of sub-one second femtosecond laser capsulotomy on capsulotomy irregularities. Presented at ASCRS ASOA; April 20, 2015, San Diego, CA.
6. Lee YE, Joo CK. Assessment of lens center using optical coherence tomography, magnetic resonance imaging, and photographs of the anterior segment of the eye. *Invest Ophthalmol Vis Sci*. 2015;56:5512-5518.
7. Conrad-Hengerer I, et al. Effect of femtosecond laser fragmentation of the nucleus with different softening grid sizes on effective phaco time. *JCRS*. 2012; 38(11). 1888-94.
8. Dick HB, et al. On the way to zero phaco. *JCRS*. 2013; 39(9):1442-1444.
9. Culbertson D. Why Use a Femtosecond Laser for Incisions? Presented at ESCRS, Sept 2012. Milan, Italy.
10. Data on File. Johnson & Johnson Surgical Vision, Inc., 2015.
11. Conrad-Hengerer, et al. Corneal endothelial cell loss and corneal thickness in conventional compared with femtosecond laser-assisted cataract surgery: three-month follow-up. *JCRS*. 2013; 39(9):1307-13.
12. Donaldson KE, et al. Femtosecond laser-assisted cataract surgery. *JCRS*. 2013;39:1753-1763.
13. Kadence International. LCS market assessment study USA V3. Prepared for Johnson & Johnson Surgical Vision, Inc. November 2014.
14. Ondrias D. Integrating laser cataract surgery. *Optometry Times*. March 18, 2015
15. Kent C. Who's getting femto laser cataract surgery? *Review of Ophthalmology*. March 9, 2015.
16. Aker AB. Femto-cataract: Why the business model works. *Ophthalmology Times*. May 2015; 40(8): 1, 20-21.
17. Rivera RP, et al. Comparative analysis of femtosecond laser-assisted phacoemulsification using 2 femtosecond laser platforms. Presented at ASCRS ASOA Symposium and Congress; April 2014; Boston, Massachusetts.
18. Bafna S. Advances in laser cataract surgery technology enhance ease, effectiveness of procedure, Part 1. *Ocular Surgery News*. Nov 10, 2012. (US).

IMPORTANT SAFETY INFORMATION FOR THE CATALYS® PRECISION LASER SYSTEM

CONTRAINDICATIONS: The CATALYS® System is contraindicated in patients with corneal ring and/or inlay implants, severe corneal opacities, corneal abnormalities, significant corneal edema or diminished aqueous clarity that obscures OCT imaging of the anterior lens capsule, patients younger than 22 years of age, Descemetocoele with impending corneal rupture, and any contraindications to cataract surgery. **WARNINGS:** Prior to INTEGRAL GUIDANCE System imaging and laser treatment, the suction ring must be completely filled with sterile buffered saline solution. If any air bubbles and/or a meniscus appear on the video image before treatment, do not initiate laser treatment. Before initiating laser treatment, inspect images created from the OCT data, surface fits, and overlaid pattern in both axial and sagittal views, and review the treatment parameters on the Final Review Screen for accuracy. Safety margins for all incisions are preserved only if Custom Fit Adjustments to ocular surface(s) are applied in accordance with the instructions for use. Purposeful misuse of the Custom Fit Adjustment to ocular surfaces can result in patient injury and complication(s), and therefore must be avoided. Standard continuous curvilinear capsulorhexis (CCC) surgical technique must be used for surgical removal of the capsulotomy disc. The use of improper capsulotomy disc removal technique may potentially cause or contribute to anterior capsule tear and/or a noncircular, irregularly shaped capsulotomy. Verify that the suction ring is correctly connected to the disposable lens component of the LIQUID OPTICS Interface during the initial patient docking procedure. **PRECAUTIONS:** Use caution when treating patients who may be taking medications such as alpha blockers (e.g. Flomax®) as these medications may be related to Intraoperative Floppy Iris Syndrome (IFIS); this condition may include poor preoperative dilation, iris billowing and prolapse, and progressive intraoperative miosis. These conditions may require modification of surgical technique such as the utilization of iris hooks, iris dilator rings, or viscoelastic substances. Surgical removal of the cataract more than 30 minutes after the laser capsulotomy and laser lens fragmentation has not been clinically evaluated. The clinical effects of delaying surgical removal more than 30 minutes after laser anterior capsulotomy and laser lens fragmentation are unknown. The LIQUID OPTICS Interface is intended for single patient use only. Full-thickness corneal cuts or incisions should be performed with instruments and supplies on standby, to seal the eye in case of anterior chamber collapse or fluid leakage. Patients who will undergo full-thickness corneal incisions with the CATALYS® System should be given the same standard surgical preparation as used for patients undergoing cataract surgery for the removal of the crystalline lens. During intraocular surgery on patients who have undergone full-thickness corneal incisions with the CATALYS® System, care should be taken if an eyelid speculum is used, in order to limit pressure from the speculum onto the open eye. Patients who will be transported between the creation of a full-thickness corneal incision and the completion of intraocular surgery should have their eye covered with a sterile rigid eye shield, in order to avoid inadvertent eye injury during transport. **ADVERSE EFFECTS:** Complications associated with the CATALYS® System include mild Petechiae and subconjunctival hemorrhage due to vacuum pressure of the LIQUID OPTICS Interface Suction ring. Potential complications and adverse events generally associated with the performance of capsulotomy and lens fragmentation, or creation of a partial-thickness or full-thickness cut or incision of the cornea, include: Acute corneal clouding, age-related macular degeneration, amaurosis, anterior and/or posterior capsule tear/rupture, astigmatism, capsulorhexis notch during phacoemulsification, capsulotomy/lens fragmentation or cut/incision decentration, cells in anterior chamber, choroidal effusion or hemorrhage, conjunctival hyperemia/injection/erythema/chemosis, conjunctivitis (allergic/viral), corneal abrasion/depithelization/epithelial defect, corneal edema, cystoid macula edema, Descemet's detachment, decentered or dislocated intraocular lens implant, diplopia, dropped or retained lens, dry eye/superficial punctate keratitis, edema, elevated intraocular pressure, endothelial decompensation, floaters, glaucoma, halo, inflammation, incomplete capsulotomy, intraoperative floppy iris syndrome, iris atrophy/extrusion, light flashes, meibomitis, ocular discomfort (e.g., pain, irritation, scratchiness, itching, foreign body sensation), ocular trauma, petechiae, photophobia, pigment changes/pigment in corneal endothelium/foveal region, pingueculitis, posterior capsule opacification, posterior capsule rupture, posterior vitreous detachment, posteriorly dislocated lens material, pupillary contraction, red blood cells in the anterior chamber (not hyphema), residual cortex, retained lens fragments, retinal detachment or hemorrhage, scar in Descemet's membrane, shallowing or collapsing of the anterior chamber, scoring of the posterior corneal surface, snail track on endothelium, steroid rebound effect, striae in Descemet's, subconjunctival hemorrhage, thermal injury to adjacent eye tissues, toxic anterior shock syndrome, vitreous in the anterior chamber, vitreous band or loss, wound dehiscence, wound or incision leak, zonular dehiscence.

CAUTION: Federal law (USA) restricts this device to sale by or on the order of a physician. The system should be used only by qualified physicians who have extensive knowledge of the use of this device and have been trained and certified. **ATTENTION:** Reference the labeling for a complete listing of Indications and Important Safety Information.



**INVISIBLE LASER RADIATION
AVOID EYE OR SKIN EXPOSURE TO
DIRECT OR SCATTERED RADIATION
CLASS 4 LASER PRODUCT**

Yb Laser: Laser Class 4/IV
Max Output: 1030nm, 10uJ, 1.8W, <900fs Pulse
SLD Laser: Laser Class 3R
Max Output: 820-930nm, <3.48mW, CW
Per IEC 60825-1:2007