

LUXSMART™

P R E L O A D E D

PREMIUM HYDROPHOBIC IOL PEARLS



BAUSCH+LOMB
See better. Live better.



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OPTICAL CONCEPT

PURE REFRACTIVE OPTICS (PRO) Technology

With no diffractive optical profile; the IOL* has a refractive surface across the entire optical diameter

PERIPHERY

Refractive aspheric surface

ELONGATED FOCUS CENTER

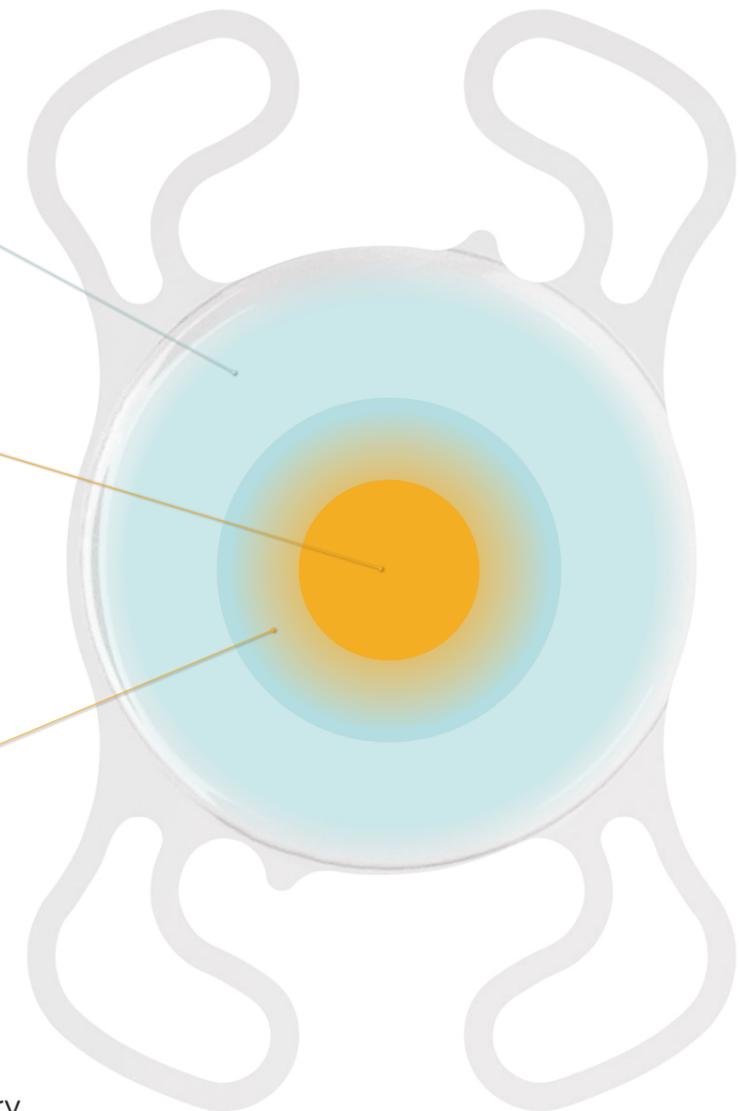
2 mm centre with combination of 4th and 6th orders of spherical aberration of **opposite signs**

PATENTED TRANSITION ZONE

Transition zone designed to smoothly decrease the optic vergence from the centre to the periphery

Transition designed to take part of the 4th and 6th orders of spherical aberration management

Transition designed to control the trajectory of light rays to ensure no light is outside the range of vision (no light loss)



*IOL: Intraocular lens

Patient Selection & Consideration

Indications

- › **LuxSmart™** is a single-piece ultraviolet (UV) absorbing posterior chamber intraocular lens (IOL) developed to replace the natural crystalline lens in pseudophakic adult patients.¹
- › **LuxSmart™** offers a solution for the range of vision needed for a variety of everyday tasks as reported in both experimental testing and surgeon's clinical experience.^{2,3}
- › **LuxSmart™ Toric** is most appropriate for visual correction of astigmatism in these patients.⁴



The Ideal Patient

- › Good ocular health, particularly with respect to the cornea and macula
- › Potential for good visual acuity in each eye
- › Does the patient have corneal astigmatism?
LuxSmart™ Toric is recommended for corneal astigmatism > 0.75 D and correctable by means of glasses
- › Good pupil dynamics, >2.5mm
- › Visual acuity outcomes will be enhanced by bilateral implantation
- › The patient is motivated to have distance and intermediate vision corrected but understands they may need to wear glasses for near vision.
- › If implanting for the first time, consider patients with bilateral cataracts, hyperopes, or patients with nuclear cataract.

Other Considerations

- › Occupation of the patient
- › Lifestyle and visual needs of the patient. For example the amount of time spent driving at night, using an iPad or computer, cooking, reading and other leisure activities
- › Patient personality profiles, such as those with high expectations versus easy-going patients

Pre-Op Counselling: What to Explain to Patients

- › Vision will improve over time after surgery (neuro adaptation)
- › Distance and intermediate vision will be preserved (computer and car dashboards)
- › Spectacles, good lighting conditions with high illumination are needed for best reading results with these lenses

References:

1. LuxSmart Directions For Use.
2. Borkenstein et. al. Optical Bench Analysis of 2 Depth of Focus Intraocular Lenses. Biomed Hub 2021;6:77-85. DIO 10.1159/000519139
3. Campos, et. al. Preliminary Clinical Outcomes of aNew Enhanced Depth of Focus Intraocular Lens. Clinical Ophthalmology 2021;15 4801-4807
4. LuxSmart Toric Directions For Use.

Pre-Op Measurements*

- › Ensure devices are calibrated regularly
- › Select correct machine settings - for example Phakic, pseudophakic etc
- › Monitor and check patient fixation for accurate measurements
- › Perform optical biometry & keratometry before any eyedrops (except artificial tears), applanation tonometry, or corneal manipulation.
- › Contact lens wear may affect accuracy of measurements and subsequent IOL selection. Ensure contact lens use has been discontinued long enough to provide corneal stability and stable measurements. A longer period of abstinence from contact lens wear may be required for rigid gas permeable contact lens wearers.
- › Make sure the ocular surface and tear film are stable prior to measurements
- › Have the patient blink frequently between measurements to avoid drying the cornea
- › If the patient has dry eye, artificial tears may help to obtain more reliable measurements. Be cautious in utilising artificial tears with a high viscosity as this may alter results
- › Take at least 3 readings per eye to ensure accuracy and consistency of measurements
- › Verify accuracy of measurements according to manufacturer's suggestions
- › Check disparities between eyes and measurements with different devices
- › Corneal topography may assist in assessing corneal shape and identify corneal conditions that are contraindications, to help with surgical planning.
- › Optical coherence tomography (OCT) is able to detect subtle macular pathologies which can help guide IOL selection and improve patient outcomes.

Biometry*

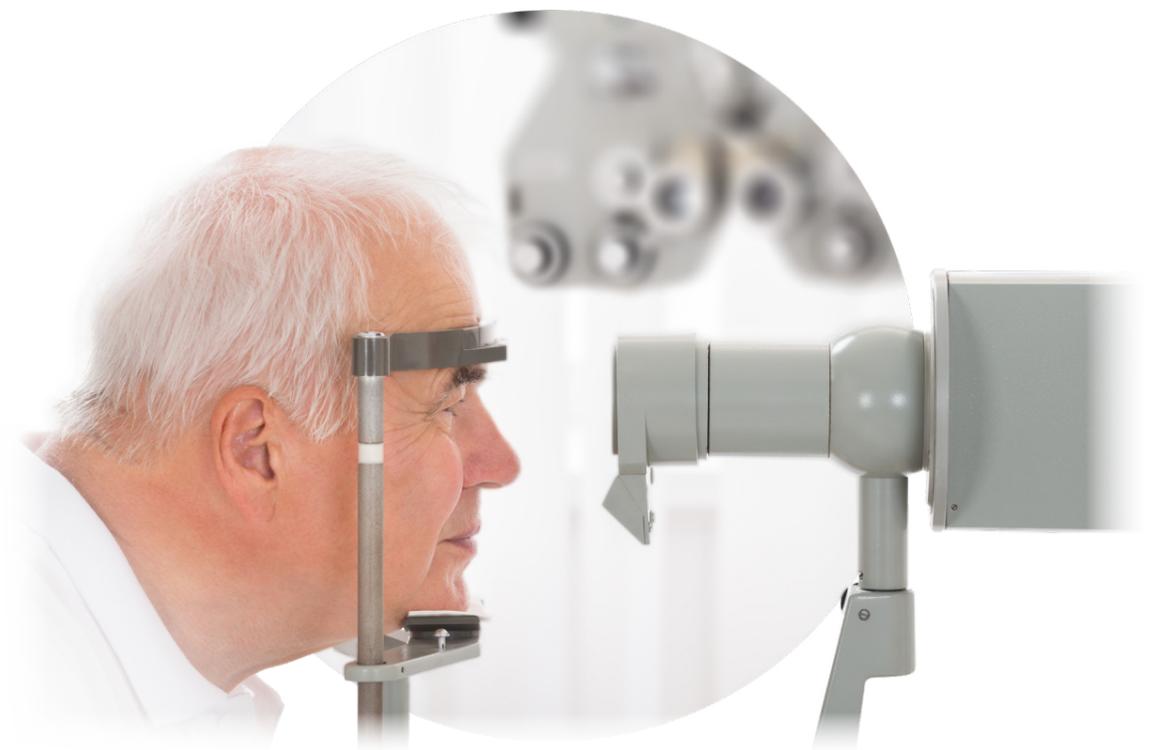
Repeat axial length measurement if:

- › The axial length is < 22 mm or > 26 mm in either eye.
- › There is a difference in axial length between the two eyes of greater than 0.3 mm that cannot be correlated with the patient's oldest refraction.
- › Axial length measurements do not correlate with the patient's refractive error. In general, myopes should have eyes longer than 24.00 mm and hyperopes should have eyes shorter than 24.00 mm. Exceptions to this rule involve steep or flat corneas. Be sure to use the oldest refractive data.
- › There is a difference in IOL power of > 1.00 D between the two eyes

Keratometry*

Repeat keratometry if:

- › The corneal power is < 41.00 D or > 47.00 D
- › The average corneal power difference between the two eyes is greater than 0.90 D



References:

1. LuxSmart Directions For Use.
2. Comparative optical bench analysis of a new extended range of vision intraocular lens. Juan Antonio Azor, Fidel Vega, Jesus Armengol, Maria S. Millan Grupo de Optica Aplicada y Procesado de Imagen (GOAPI). Department of Optics and Optometry Universitat Politècnica de Catalunya BARCELONATECH

Lens Power Calculations

- Most modern IOL power calculation formulas will give good outcomes for normal eyes with axial lengths from 22.50 mm to 24.00 mm, and central corneal powers ranging from 42.00 D to 45.00 D, and a normal anterior chamber depth.¹
- For eyes outside this range, newer generation formulas will give better results.²

Emmetropia Verifying Optical (EVO) Formula

The Emmetropia Verifying Optical (EVO) Formula is an advanced intraocular lens (IOL) formula for cataract surgery. It is based on the theory of emmetropization and generates an 'emmetropia factor' for each eye. As a thick lens formula, it takes into account of the optical dimensions of the eye, and can handle different IOL geometry and powers.³

Targeting

For LuxSmart™

- Target emmetropia (± 0.10 D), or first positive but no more than +0.25 D

Toric targeting

The EVO Toric Formula is a toric IOL formula based on the EVO Formula. It combines theoretical posterior cornea astigmatism prediction, thick lens modelling for different types of toric IOLs, and a dynamically interconnected prediction of IOL power and toricity.³

Targeting

Toric targeting - continued

Prepare the following information for the EVO Toric IOL Calculator at:

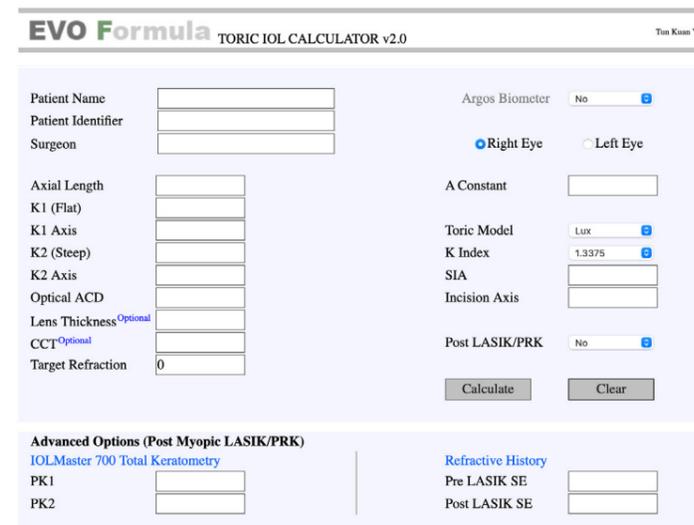
www.evoiolcalculator.com

- Axial length (AL)
- Keratometry (K) – Do not use Total Keratometry (TK) values as this would lead to an overcompensation of posterior corneal astigmatism
- Optical anterior chamber depth (ACD)
- Lens Thickness (mm) and Central Corneal Thickness CCT (μm) are optional inputs
- Target refraction, expected magnitude of surgically induced astigmatism and primary phaco incision axis inputs from surgeon

When you have the required information, complete the following steps:

- Start the EVO Toric IOL Calculator software program
- For IOL Toric Model select Lux and enter EVO A-constant 118.5 or surgeon's optimised A constant
- Enter requested information.
Please note: Select Yes, if Argos Biometer has been used for inputs.
- Print the output from the calculator for the patient record.

Please note the lens recommendation page of the EVO Calculator displays the residual cylinder and axis in negative cylinder but can be changed to display in positive cylinder.



The EVO Toric IOL Calculator will calculate:

- The spherical IOL power, cylinder and axis, and amount of residual astigmatism.

www.evoiolcalculator.com



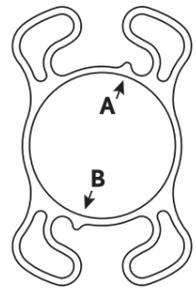
Scan the code to visit the EVO Toric Calculator

References:

- www.doctor-hill.com/iol-main/formulas.htm
- Hipólito-Fernandes D, Elisa Luís M, Gil P, Maduro V, Feijão J, Yeo TK, Voytsekhivsky O, Alves N. VRF-G, a New Intraocular Lens Power Calculation Formula: A 13-Formulas Comparison Study. Clin Ophthalmol. 2020 Dec 16;14:4395-4402. doi: 10.2147/OPHTH.S290125
- www.evoiolcalculator.com

Surgical Pearls Perioperative

- › Mark the eye with the patient sitting upright or use automated toric IOL alignment systems in order to avoid cyclotorsion effect
- › The LuxSmart IOL and viscoelastic solution used should be stored for at least 30 minutes at a minimum of 20°C before surgery
- › Follow LuxSmart loading instructions for lens preparation
- › The IOL must be carefully rinsed prior to implantation. Do not soak or rinse the IOL with any solution other than sterile balanced salt solution
- › Prior to implantation, do not advance the silicone cushion tip past the end of the tunnel and do not store the lens in the cartridge tip
- › Once LuxSmart is implanted, the orientation features of the lens must be oriented at the top right (A) and at the bottom left (B).



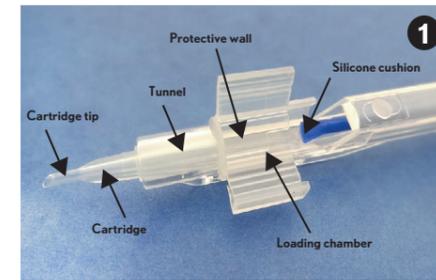
For toric alignment, LuxSmart Toric can be rotated both ways in the bag.

Post-Op Examination

- › Qualify eye drop regimen compliance, to reduce effects on visual acuity of anterior chamber reactions, corneal oedema and dry eye
- › Encourage patients during visual acuity (VA) measurements
- › Do not rely on auto-refractions (they tend to OVER-MINUS)
- › When testing VA be sure to use appropriate lighting
- › Measure intermediate VA between 66-70 cm
- › Check uncorrected distance, intermediate, and near VA
- › Subjective refraction (spherocylinder) to best VA endpoint

Loading Guide

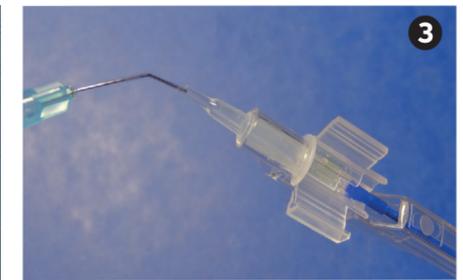
Using the preloaded IOL Injector Accuject™ Pro



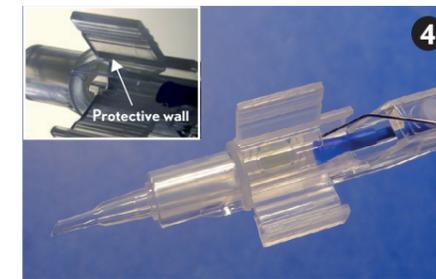
The Accuject™ Pro is a push-type fully preloaded single use injection system. **The LuxSmart™ IOL and the viscoelastic should be stored for at least 30 minutes at a minimum of 20°C before the surgery.**



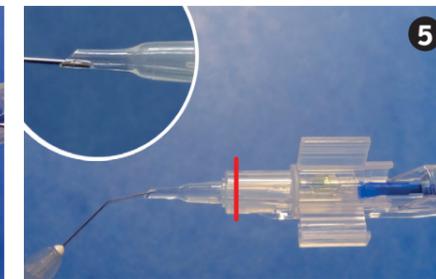
Open the blister and transfer the injection system onto the sterile field.



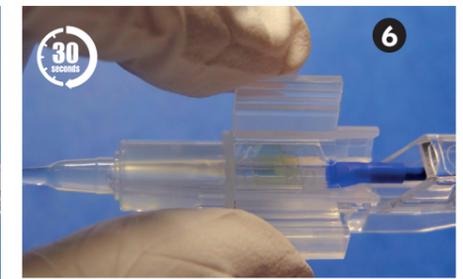
Rinse the lens by slowly injecting BSS* (at room temperature not straight from the fridge) from the cartridge tip inclined upwards.



Then, rinse the lens from the back of the cartridge inclined downwards by positioning the cannula near the silicone tip under the protective wall. The cartridge contains a coating that is activated when hydrated by the addition of BSS*. The coating fixes a layer of fluid that ensures lubrication. Full hydration of all the parts is mandatory.



Apply viscoelastic solution** in the tip of the cartridge until the red line.



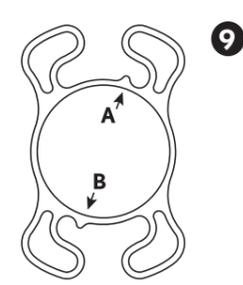
Wait for 30 seconds.



Close the wings of the loading chamber until you hear a "click". The system is now ready for injection (do not advance the lens into the tunnel yet); now is the moment to give it to the surgeon.



BEFORE IMPLANTATION



Once implanted, the orientation features of the lens must be oriented at the top right (A) and at the bottom left (B).

*BSS: Balanced Salt Solution
** Amvisc® Plus, OcuCoat® and EyeFill® C

LuxSmart™ Technical Specifications

IOL DETAILS

Material:	Acrylic hydrophobic
Overall diameter:	11.00 mm
Optic diameter:	6.00 mm
Platform design:	Single piece, 4 fixation points and 360°posterior square-edges
Optical design:	Asphericity modulation design with the combination of 4 th and 6 th orders of spherical aberration of opposite signs
Haptics angulation:	0°
Light Filter:	LuxSmart™ Crystal: UV filter LuxSmart™: UV and violet filters
Diopter range:	From 0.00 D to +10.00 D (1.00 D steps) From +10.00 D to +34.00 D (0.50 D steps)
Refractive index:	1.54 at 35°C
Orientation features:	Top right and bottom left
Water content	< 0.5%
SKU:	LuxSmart YSMART+XX.XXD LuxSmart Crystal SMART+XX.XXD

DELIVERY SYSTEM

Fully preloaded system with push injection: Accuject™ Pro
Recommended incision size: ≥ 2.2 mm

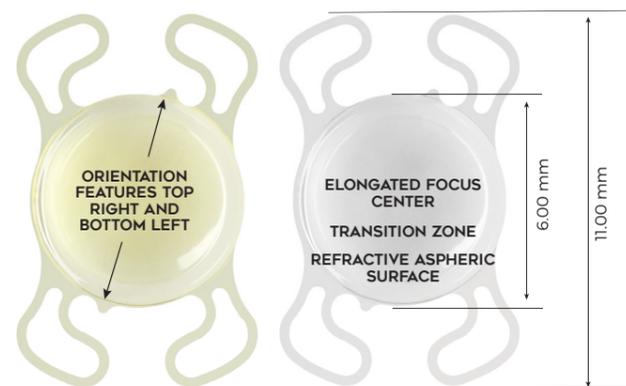


CONSTANTS*

OPTICAL CONSTANTS

SRK/T A constant: 118.5
Hoffer Q pACD: 5.23
Holladay I Surgeon factor: 1.48

EVO A constant: 118.5
Barret A constant: : 118.4 / Lens Factor: 1.57
Hill-RBF A constant: 118.32

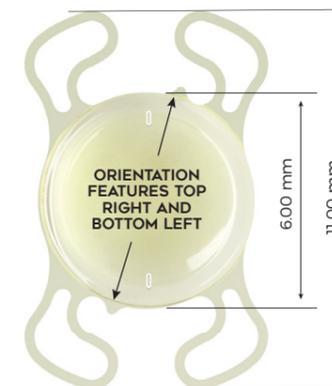


Scan the code to access a real implantation video.
Courtesy of Dr. Hoerster, Germany

LuxSmart™ Toric Technical Specifications

IOL DETAILS

Material:	Acrylic hydrophobic
Overall diameter:	11.00 mm
Optic diameter:	6.00 mm
Platform design:	Single piece, 4 fixation points and 360°posterior square-edges
Optical design:	Asphericity modulation design with the combination of 4 th and 6 th orders of spherical aberration of opposite signs
Haptics angulation:	0°
Light Filter:	LuxSmart™ Toric: UV and violet filters
Diopter range:	From +6.00 D to +10.00 D (1.00 D steps) From +10.50 D to +30.00 D (0.50 D steps) From +31.00 D to +34.00 D (1.00 D steps)
Cylinder power – IOL Plane:	+0.75 D / +1.00 D / +1.50 D / +2.25 D / +3.00 D / +3.75 D / +4.50 D / +5.25 D / +6.00 D Some availability exceptions for high or low sphere powers. Refer to chart on next page.
Refractive index:	1.54 at 35°C
Orientation features:	Top right and bottom left
Water content:	< 0.5 %
SKU:	YSMARTTxxx+xxx



DELIVERY SYSTEM

Fully preloaded system with push injection: Accuject™ Pro
Recommended incision size: ≥ 2.2 mm



CONSTANTS*

OPTICAL CONSTANT

SRK/T A constant: 118.5
Hoffer Q pACD: 5.23
Holladay I Surgeon factor: 1.48
Haigis: a₀: 1.045 / a₁: 0.4 / a₂: 0.1

EVO A constant: 118.5
Barret A constant: 118.4 / Lens Factor: 1.57
Hill-RBF A constant: 118.32

*Constants are estimates only. It is recommended that each surgeon develops their own values.

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