VIVINEX™ TORIC MULTISERT™

THE SECURE CHOICE FOR ASTIGMATISM CORRECTION

Our monofocal toric IOL – designed to advance patients' vision

HOYA
SURGICAL OPTICS

For clarity of vision and outstanding rotational stability choose Vivinex™ Toric

Designed for outstanding optical quality, Vivinex™ Toric multiSert™ has proven rotational stability for precise astigmatism correction and provides patients with an astigmatic cornea with clarity of vision. Product quality, dedication and attention to detail are deeply rooted in our Japanese heritage, and with 7 million lenses implanted worldwide, surgeons' trust in Vivinex™ is proven.

Clinically proven rotational stability.
More than 96% of implanted lenses rotated ≤ 5° including eyes with high axial lengths.[1,2,3]

Incorporates the Vivinex™ proprietary aspheric optic design which partially compensates for corneal spherical aberration and is more tolerant to sources of coma than standard aspheric designs.[4,5,6]

Active oxygen processing treatment, a smooth surface and square optic edge to reduce PCO.[7,8,9,10,11,12,13,14,15]

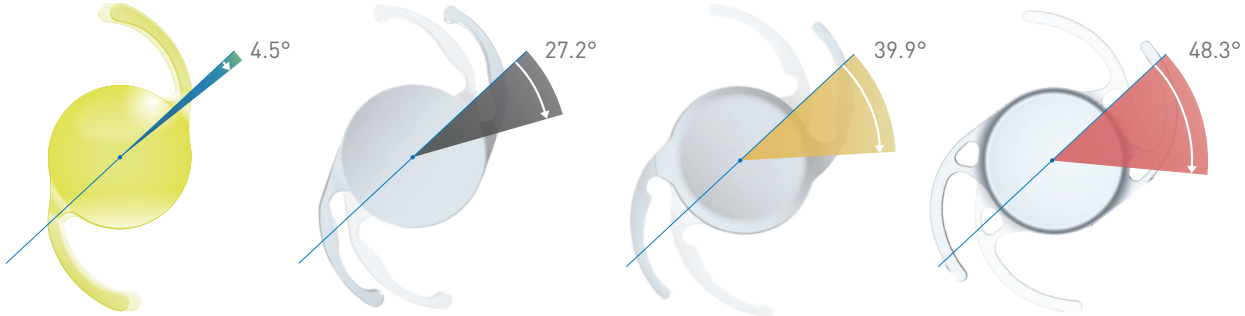
Glistening-free hydrophobic acrylic IOL material.[15,16]

Reliable outcomes through outstanding rotational stability

To avoid a secondary surgical intervention, toric lenses should stay in the intended axis.

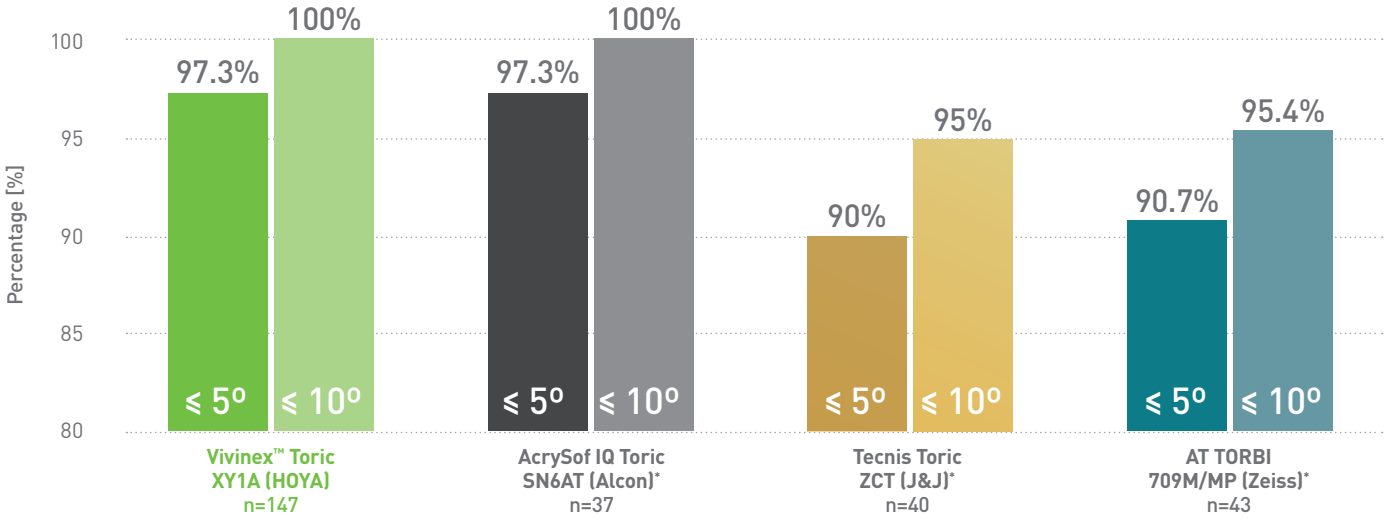
The Vivinex™ IOL platform shows outstanding rotational stability between surgery and one week post op, without outliers, when compared to AcrySof*, Tecnis* and enVista*.[1,17]

Maximum rotation values observed in the first week following surgery[1,17]



Distribution of absolute rotation between end of surgery and 6 months postoperative

100% of Vivinex™ Toric IOLs had less than 10° of rotation between the end of surgery and 6 months postoperatively.[3]



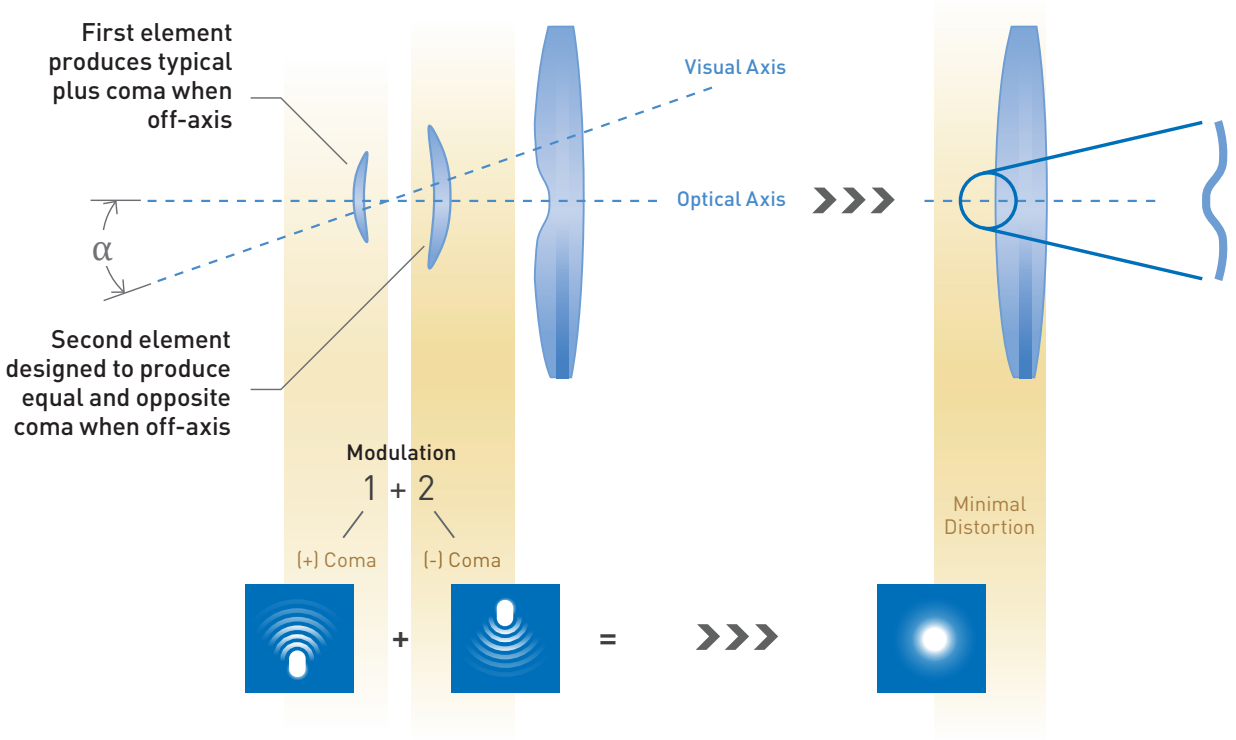
Proprietary aspheric optic design for improved image quality

- The aspheric optic is designed to cancel out coma, providing patients with improved off-axis image quality.
- Two distinct aspheric elements tuned to reduce typical induction of coma.
- These optical zones in the Vivinex™ IOL induce positive and negative coma to compensate for the loss of image quality caused by the natural misalignment between visual and optical axis in the eye.

The proprietary aspheric optics of Vivinex™ reduce spherical aberration without incurring significant susceptibility to decentration-associated coma.[4]

How is this clinically relevant?

In eyes with large angle α, the proprietary aspheric optic design of Vivinex™ performs better, inducing fewer high order aberrations and maintaining improved Strehl ratio compared to AcrySof IQ* and Tecnis ZCB00*.[5,6]

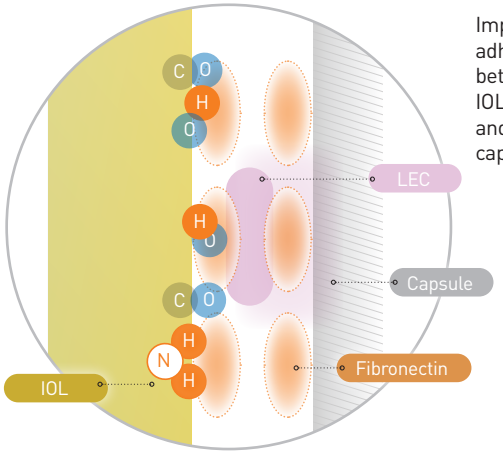


This image is for illustrative purposes only and may not be an exact representation of the product.

Clinically proven reduction of PCO

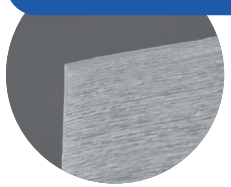
Vivinex™ combines an active oxygen processing treatment, a square edge design and one of the smoothest and most regular IOL surfaces to provide a low incidence of PCO.[7,8,9,10,11,12,13,14,15]

Posterior Surface treatment



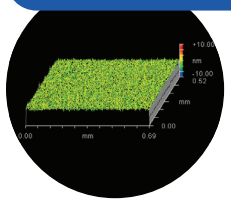
Improved adhesion between the IOL surface and the capsule

Square optic edge



Scanning electron microscope (SEM) image at 1500x magnification

Smooth surface



Topographic image at 10x magnification

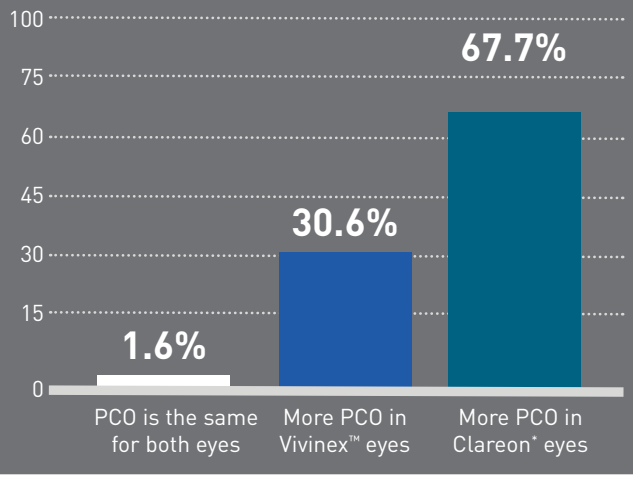
Vivinex™ outperformed Clareon* in inhibiting PCO at 3 years postoperatively[14]

(Randomized, prospective, patient-masked and examiner masked clinical trial with intra-individual comparison)

	Vivinex™ XY1 (HOYA Surgical Optics)	**Clareon* CNAOTO** (Alcon)	
Objective (AQUA score)	**1.0 ± 1.0** n=62	**1.5 ± 1.2** n=62	P<0.001 (Significant difference)
YAG rate	**7.5%** n=67	**9.0%** n=67	P=1.0

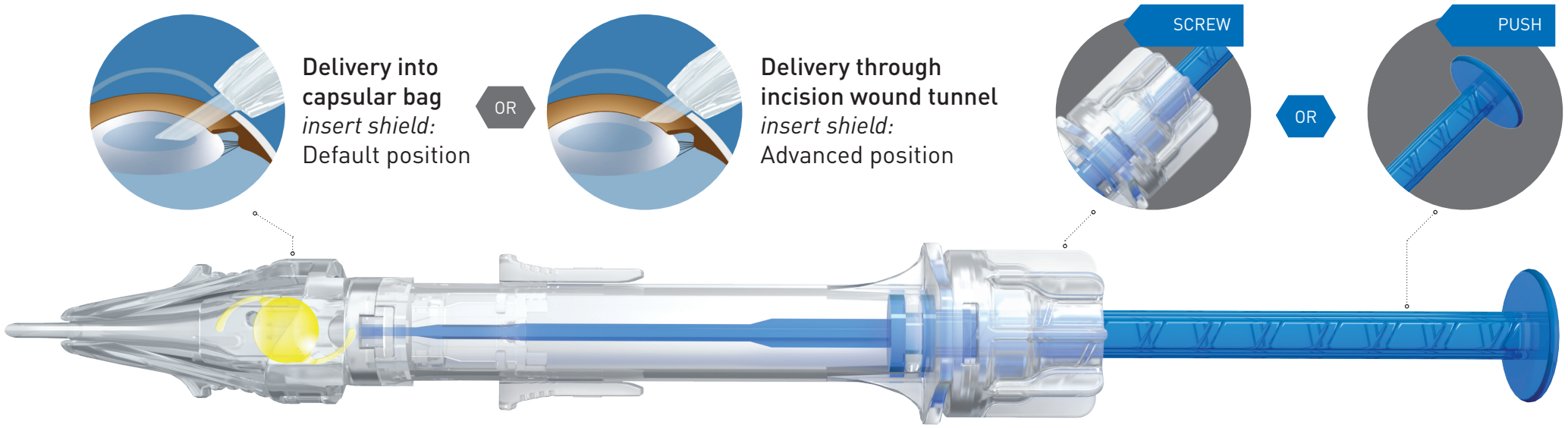
- Vivinex™ and Clareon* were implanted contralaterally, allowing direct comparison within the same patient.
- In 67.7% of cases, the eye implanted with Vivinex™ exhibited less PCO.

Which eye showed more PCO?
(intra-individual comparison)



Predictable and consistent delivery with the multiSert™ preloaded injector

Push and screw modes and the ability to control insertion depth
Vivinex™ multiSert™ is a 4-in-1 delivery system that allows you to achieve outstanding delivery consistency with your choice of injection and insertion style.[18]



Preloaded injectors are:

Easier to prepare, increasing safety by:[19,20,21,22,23,24]
- Reducing risk of contamination and infection
- Reducing risk of IOL damage

More efficient in the OR:[21,23]
- Minimising time spent preparing the IOL delivery system
- Creating fewer instruments to reprocess

More predictable:[23]
- Increasing predictability and consistency of IOL delivery

CLEARlog – Power in the palm of your hand

Patient information · Surgery · Pre-surgery · Follow up · Surgical plan

CLEARlog is an intuitive Record-Analyze-Optimize app for cataract and refractive lens exchange.

CLEARlog allows you to:

- Capture data quickly across all devices
- Conduct complex analyses easily
- Generate reports with just one click

Sign up
www.CLEARlogportal.com

HOYA Toric Calculator

- The HOYA Toric Calculator can take account of posterior corneal astigmatism in the calculation by giving the option to apply the Abulafia-Koch Regression formula.
- The Abulafia-Koch Regression, applied to a clinical patient cohort, has been shown to improve predictability of TIOL refractive outcomes.[25]

Visit
www.HOYAtoric.com

+

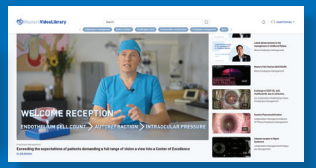
Masters

Educational ecosystem

- We believe that education is the key to unlocking potential. So we've created "Masters," an educational ecosystem designed to support your lifelong learning journey
- The Masters programs and resources offer high-quality content, courses, trainings, and events to meet ophthalmic surgeons' evolving needs

A rich and searchable collection of ophthalmic surgical videos

MastersVideoLibrary



LEARN — Visualize surgical steps and techniques through videos of real procedures

SEARCH — Tailor your search to meet your skill level and time pressure

GROW — Access to masters in cataract and refractive surgery

Register for free

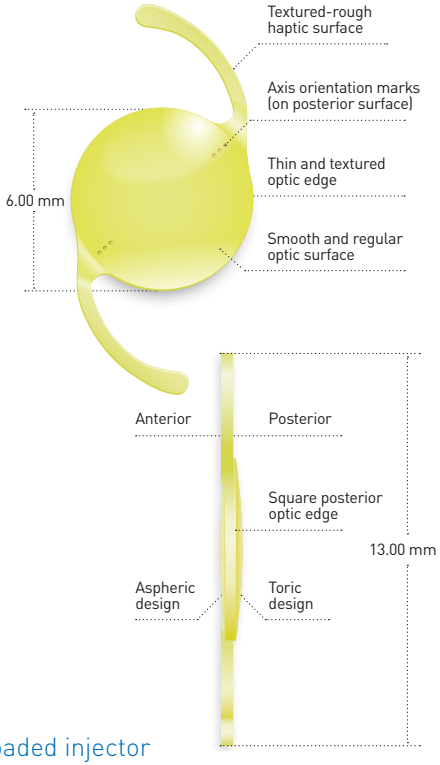
Specifications

For the toric cylinder calculation please visit www.HOYAtoric.com

HOYA SURGICAL OPTICS

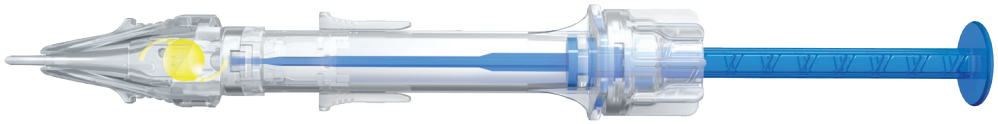
	Vivinex™ Toric multiSert™
Model name	**XY1A-SP**
Optic design	Biconvex with square, thin and textured optic edge Anterior: Aspheric design | Posterior: Toric design
Optic & haptic materials	Hydrophobic acrylic Vivinex™ with UV- and blue light filter
Haptic design	Textured-rough haptic surface
Diameter (optic/OAL)	6.00 mm / 13.00 mm
IOL power (Spherical equivalent)	+10.00 to +30.00 D (in increments of 0.50 D)
Cylinder power at IOL plane	1.00 to 6.00 D (T2 to T9) T2 to T3 in increments of 0.50 D T3 to T9 in increments of 0.75 D
Nominal A-constant**	118.9
Injector	**multiSert™** preloaded
Front injector tip outer diameter	1.70 mm
Recommended incision size	2.20 mm

Model XY1A-SP	Cylinder power at IOL plane	Cylinder power at corneal plane[26]
T2	1.00 D	0.69 D
T3	1.50 D	1.04 D
T4	2.25 D	1.56 D
T5	3.00 D	2.08 D
T6	3.75 D	2.60 D
T7	4.50 D	3.12 D
T8	5.25 D	3.64 D
T9	6.00 D	4.17 D



SCAN HERE TO VIEW PRODUCT INFORMATION

Delivered by the **multiSert™** preloaded injector



CE 0123 2025-08-12_HSOE_XY1A-SP_BR_EN

References: 1. Schartmueller, D. et al. (2019): True rotational stability of a single-piece hydrophobic intraocular lens. In: The British journal of ophthalmology 103 (2), p. 186–190. **2.** Brar et al. (2024): Clinical outcomes and rotational stability following implantation of a monofocal toric IOL with textured haptics in normal versus high axial lengths. In: Journal of Cataract & Refractive Surgery, February 15, 2024. **3.** Hoffmann, P. et al. (2025): Comparing Rotational Stability Over Time Between Four Monofocal Toric Intraocular Lenses. In: Clinical Ophthalmology 2025:19 1345–1355. **4.** Perez-Merino, P.; Marcos, S. (2018): Effect of intraocular lens decentration on image quality tested in a custom model eye. In: Journal of cataract and refractive surgery 44 (7), p. 889–896. **5.** Chandra et al. (2022): Effect of decentration on the quality of vision: comparison between aspheric balance curve design and posterior aspheric design intraocular lenses. Journal of cataract and refractive surgery 48 (5), p. 576-583. **6.** Thakur, A. et al. (2024): Effect of decentration on the quality of vision in two aspheric posterior chamber intraocular lenses: A contralateral eye study. In: Indian J Ophthalmol. 72 (4), p. 558–564. **7.** Leydolt, C. et al. (2020): Posterior capsule opacification with two hydrophobic acrylic intraocular lenses: 3-year results of a randomized trial. In: American journal of ophthalmology 217 (9), p. 224-231. **8.** Giacinto, C. et al. (2019): Surface properties of commercially available hydrophobic acrylic intraocular lenses: Comparative study. In: Journal of cataract and refractive surgery 45 (9), p. 1330–1334. **9.** Werner, L. et al. (2019): Evaluation of clarity characteristics in a new hydrophobic acrylic IOL in comparison to commercially available IOLs. In: Journal of cataract and refractive surgery 45 (10), p. 1490–1497. **10.** Nanavaty, M. et al. (2019): Edge profile of commercially available square-edged intraocular lenses: Part 2. In: Journal of cataract and refractive surgery 45 (6), p. 847–853. **11.** Matsushima, H. et al. (2006): Active oxygen processing for acrylic intraocular lenses to prevent posterior capsule opacification. In: Journal of cataract and refractive surgery 32 (6), p. 1035–1040. **12.** Farukhi, A. et al. (2015): Evaluation of uveal and capsule biocompatibility of a single-piece hydrophobic acrylic intraocular lens with ultraviolet-ozone treatment on the posterior surface. In: Journal of cataract and refractive surgery 41 (5), p. 1081–1087. **13.** Eldred, J. et al. (2019): An In Vitro Human Lens Capsular Bag Model Adopting a Graded Culture Regime to Assess Putative Impact of IOLs on PCO Formation. In: Investigative ophthalmology & visual science 60 (1), p. 113–122. **14.** Leydolt, C. et al. (2024): Posterior capsule opacification with two similar-design hydrophobic acrylic intraocular lenses: 3-year results of a randomized controlled trial. In: Journal of cataract and refractive surgery 50, p. 1242-1246. **15.** Auffarth, G. U et al. (2023). Randomized multicenter trial to assess posterior capsule opacification and glistenings in two hydrophobic acrylic intraocular lenses. In: Scientific reports, 13 (1), 2822. **16.** Tandogan, T. et al. (2021): In-vitro glistening formation in six different foldable hydrophobic intraocular lenses. In: BMC Ophthalmol 21, 126. **17.** Schartmueller, D. et al. (2020): Comparison of Long-Term Rotational Stability of Three Commonly Implanted Intraocular Lenses. In American journal of ophthalmology 220, pp. 72–81. **18.** HOYA data on file. DoF-SERT-102-MULT-03052018, HOYA Medical Singapore Pte. Ltd, 2018. **19.** Galor, A. er al. (2013): Management strategies to reduce risk of postoperative infections. In Current ophthalmology reports, 1(4), 10.1007/s40135-013-0021-5. **20.** Bodnar, Z. et al. (2012): Toxic anterior segment syndrome: Update on the most common causes. In: Journal of cataract and refractive surgery, 38 (11), p. 1902–1910. **21.** Jones, J. et al. (2016): The impact of a preloaded intraocular lens delivery system on operating room efficiency in routine cataract surgery. In: Clinical ophthalmology (Auckland, N.Z.), 10, p. 1123–1129. **22.** Park, C. et al. (2018): Toxic anterior segment syndrome-an updated review. In: BMC ophthalmology, 18 (1), 276. **23.** Chung, B. et al. (2018): Preloaded and non-preloaded intraocular lens delivery system and characteristics: human and porcine eyes trial. In: International journal of ophthalmology, 11 (1), p. 6–11. **24.** Schmidbauer, J. et al. (2002): Rates and causes of intraoperative removal of foldable and rigid intraocular lenses: clinicopathological analysis of 100 cases. In: Journal of cataract and refractive surgery, 28 (7), p. 1223–1228. **25.** Abulafia, A. et al. (2016): New regression formula for toric intraocular lens calculations. In: Journal of cataract and refractive surgery 42 (5), p. 663–671. **26.** Based on an average pseudophakic human eye.

* Third-party trademarks used herein are the property of their respective owners.
** The A-constant is presented as a starting point for the lens power calculation. When calculating the exact lens power, it is recommended that calculations be performed individually, based on the equipment used and operating surgeon's own experience.

HOYA Medical Singapore Pte. Ltd., 10 Biopolis Road #04-01/06, Chromos, Singapore 138670, SINGAPORE
HOYA Surgical Optics GmbH | De-Saint-Exupery-Str. 10 | 60549 Frankfurt am Main | Germany | Hotline DE: Tel. +49 (0)800 664 2 664 | Fax +49 (0)800 774 2 774 **hoyasurgicaloptics.com**