



PRECIZON™

Aspheric Presbyopic IOLs



CTF optic designed for:

- ✓ NATURAL VISION
AT ALL DISTANCES
- ✓ REDUCING GLARE & HALOS
- ✓ PUPIL INDEPENDENCE
- ✓ DECENTRATION TOLERANCE

PRESBYOPIA
CORRECTION
REINVENTED



Presbyopia
correction

Reinvented

The **PRECIZON™**
Aspheric Presbyopic IOL
is another milestone
in presbyopia correction



With its recently developed
Continuous Transitional Focus optic,
this new presbyopia correcting IOL offers
patients a more **Natural Vision**.



What makes this lens unique?

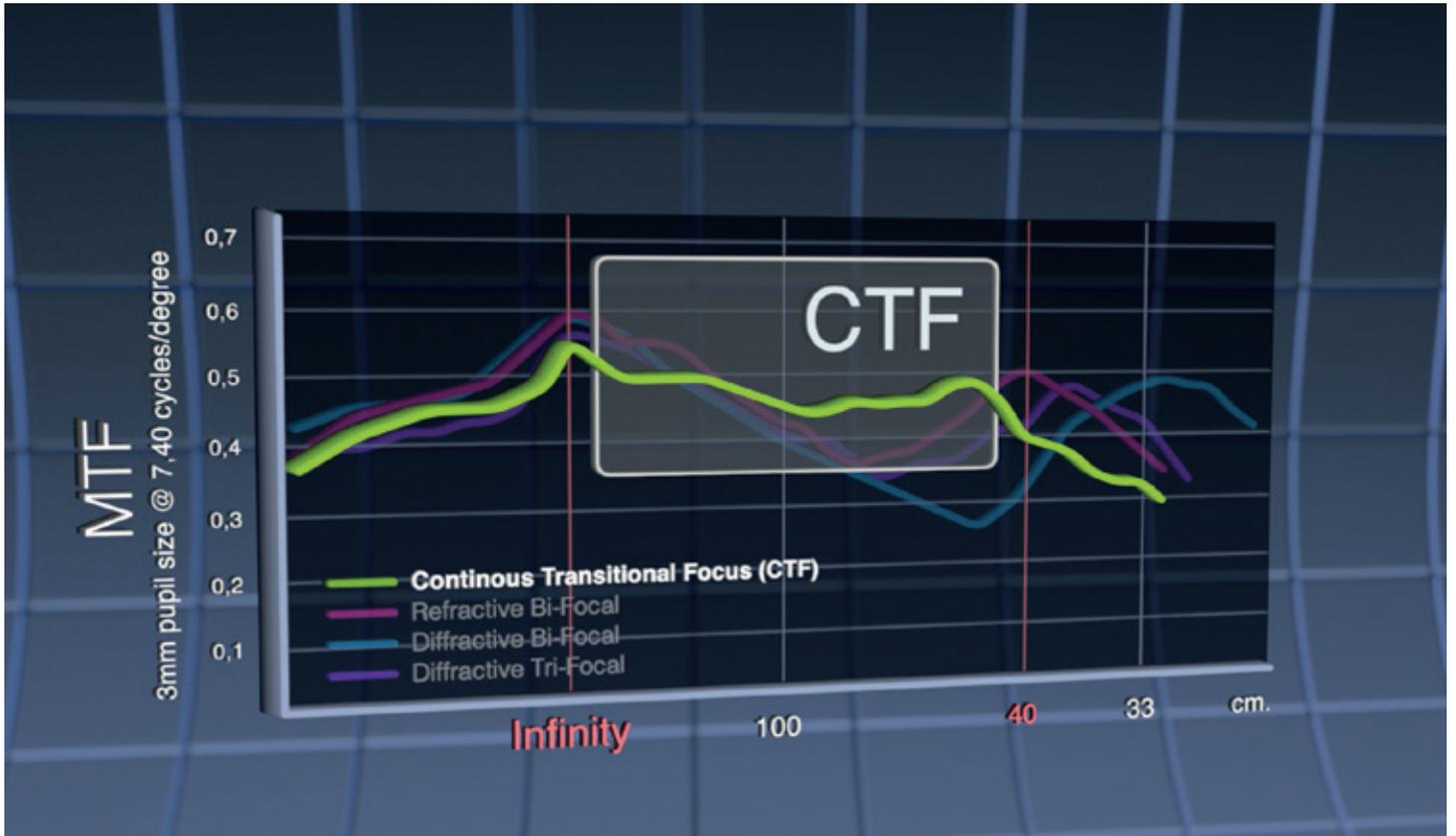
- **CTF (Continuous Transitional Focus) optic**

A CTF optic is an optic with an anterior surface with multiple segments for far and near. A smooth transition from far to near is achieved between the segments. This transition offers an elongated focus between the two sharp focus points, delivering excellent intermediate vision.

The entire anterior and posterior lens surfaces are shaped by computer-guided patented Transitional Conic technology. This technology has the capability of producing an aberration-neutral aspheric IOL with a plus power of 2.75 D or an aspherical negative aberration lens of -0.11 μm depending on the patient's needs.

Regular Multifocal IOLs will cause positive dysphotopsia, due to concentric rings¹⁾ but CTF uses segments that avoid such a problem, as they are designed to provide a more tolerant lens to halos and glare.

Saving chair time can be advantageous, as CTF lenses provide a more natural experience for patients while minimizing unwanted optical side effects²⁾. With good quality vision from 40 cm to infinity and a balanced contrast sensitivity, patients are likely to be satisfied with the CTF optics.



Through-focus modulation transfer function of four presbyopia-correcting intraocular lenses with 3.0 mm pupil size. Modulation transfer function was calculated at 7.40 cycles/degree. Data on file - courtesy of Dr. Joo, South Korea.

CTF optic designed for

- **Natural vision at all distances**

The transitional zones of the CTF optic offer a full range of vision from near to infinity with smooth continuous transition. The CTF aspheric surface forms a broad beam of light, a zone with an enhanced depth of focus with uninterrupted high quality images for the brain to translate into clear vision at all distances.

- **Reducing glare and halos**

The misalignment tolerance and the use of segments instead of concentric rings reduces photic phenomena, helping patients to adapt more naturally to their new vision.

Centred IOLs
Approx. 4 mm pupil size



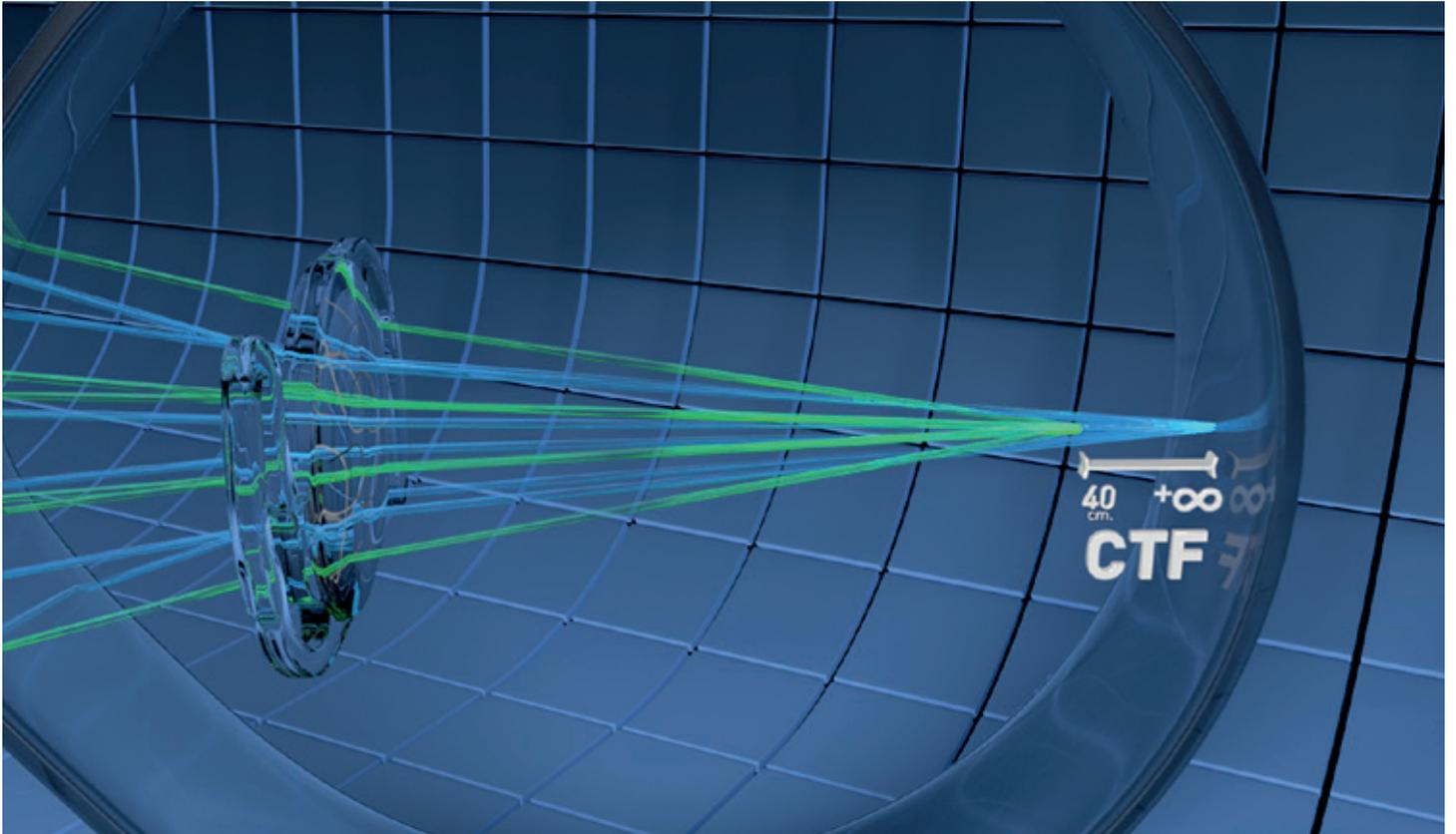
MIOL with concentric rings



Segmented Bifocal IOL



Precizon Presbyopic



Decentred IOLs
Approx. 4 mm pupil size



MIOL with concentric rings



Segmented Bifocal IOL



Precizon Presbyopic

• Pupil independence

The distribution of the zones is such that with different pupil apertures, under different lighting conditions, the patient can always benefit from the same light distribution for near and far vision. Surgeons can opt for a 50/50 or a 60/40 far/near light distribution ratio.

• Decentration tolerance

In cases of tilt or misalignment, the patient can still benefit from the same near and far vision, as the segmented zones allow an equal and steady light distribution.



Specifications

The Precizon IOL Family offers you the opportunity to choose the best model for your patients. When you treat cataract patients with presbyopia, you can choose between the Precizon Presbyopic model and the Precizon Presbyopic NVA model. Both models make use of the CTF technology. The main differences remain in the segment sizes, light distribution for far and near, and in the IOL aberrations.

Presbyopic model

Cataract patients for whom an excellent depth of field is critical are better suited to a neutral aberration optic³⁾.

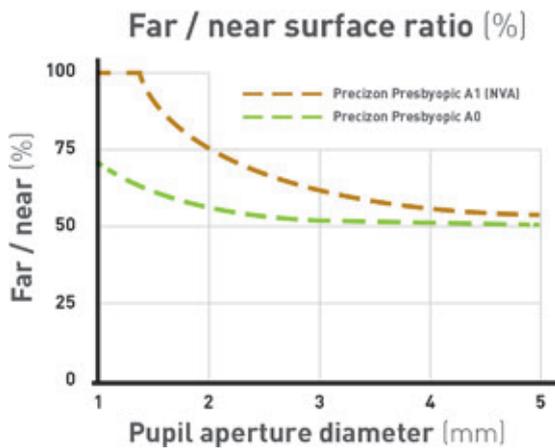
Furthermore, some cataract patients have neutral or negative aberrations in the cornea. In these cases aspherical neutral aberration optics are a better fit, as this will avoid overcompensation providing a better vision.

Finally, cataract patients who appreciate equal light distribution but have decentred pupils, might also benefit from the 50/50 far/near light distribution and pupil independence of the Precizon Presbyopic model.

Precizon Presbyopic • Key benefits • Patients
Critical near & intermediate vision
50/50 far/near light distribution
Neutral, positive or slightly negative corneal aberrations
Older cataract patients / reading, computer work

PHYSICAL CHARACTERISTICS	PRECIZON PRESBYOPIC
Model	570 A0 Precizon Presbyopic One piece IOL
Optic type	Aberration neutral Continuous Transitional Focus (CTF) optic
Central far zone size Y/X	0.5 / 2.0 mm
First near segment direction (in / out)	inwards
Rotated segments width	0.75 mm
Number of segment rings	3 n
UV cut off	<10% @360 nm
Refractive index	1.46
Abbe number	47
Optic powers	+1.0 D to +35.0 D (0.5 D increments) Power add +2.75 D.
Haptic configuration	Open modified C-loops with offset shaped haptics
Lens material	Hybrid hydrophobic & hydrophilic monomers. Ultraviolet filtering HEMA/EOEMA Copolymer
Lens colour	Clear
Body Ø	6.0 mm
Overall Ø	12.5 mm
Haptic angle	0°
Centre thickness range	0.8 to 1.3 mm
Body edge thickness	0.4 mm
A-constant* Ultrasound	118.0
A-constant* Optical	118.6 (SRK T) 118.7 (SRK II) 0.567 (Haigis a0) 0.123 (Haigis a1) 0.159 (Haigis a2) 5.27 (Hoffer-Q pACD) 1.53 (Holladay 1 sf) 1.67 (Barrett suite LF) 0.0 (Barrett suite DF)

* Check www.ophtec.com for up to date A-constants



PHYSICAL CHARACTERISTICS	PRECIZON PRESBYOPIC NVA
Model	570 A1 Precizon Presbyopic NVA One piece IOL
Optic type	Aberration Negative (- 0.11 μm) Continuous Transitional Focus (CTF) optic
Central far zone size Y/X	1.4 / 2.6 mm
First near segment direction (in / out)	outwards
Rotated segments width	0.60 mm
Number of segment rings	3 n
UV cut off	<10% @360 nm
Refractive index	1.46
Abbe number	47
Optic powers	+1.0 D to +35.0 D (0.5 D increments) Power add +2.75 D.
Haptic configuration	Open modified C-loops with offset shaped haptics
Lens material	Hybrid hydrophobic & hydrophilic monomers. Ultraviolet filtering HEMA/EOEMA Copolymer
Lens colour	Clear
Body Ø	6.0 mm
Overall Ø	12.5 mm
Haptic angle	0°
Centre thickness range	0.8 to 1.3 mm
Body edge thickness	0.4 mm
A-constant* Ultrasound	118.0
A-constant* Optical	118.6 (SRK T) 118.7 (SRK II) 0.567 (Haigis a0) 0.123 (Haigis a1) 0.159 (Haigis a2) 5.27 (Hoffer-Q pACD) 1.53 (Holladay 1 sf) 1.67 (Barrett suite LF) 0.0 (Barrett suite DF)

Presbyopic NVA Model

The average human cornea has positive aberrations and you might want to compensate for these with a negative aberration lens like the Natural Visual Acuity (NVA) model. Prior myopic LASIK patients will also benefit from aspherical negative aberration optics³.

Furthermore, patients without prior corneal refractive surgery who value image quality may also be better off with a negative aberration lens.

Finally, the Precizon Presbyopic NVA is designed to give cataract patients excellent far vision. They benefit from the 60/40 far/near light distribution as the central zone of the lens is enlarged and can go up to a 2.6 mm zone for far vision.

Precizon Presbyopic NVA • Key benefits • Patients

Excellent quality image & far vision

60/40 far/near light distribution

Positive corneal aberrations

Younger cataract patients / Active lifestyle

* Check www.ophtec.com for up to date A-constants



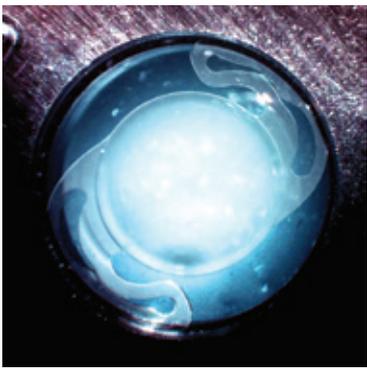
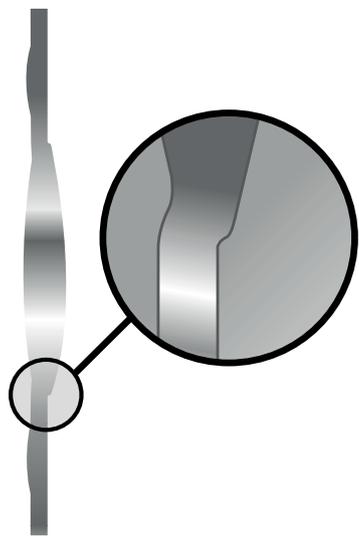
Lens design

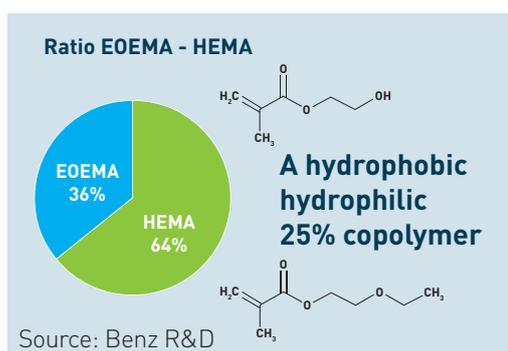
- **Best solution modified c-loops**
- **Low PCO rate and long-term lens stability**

Precizon Presbyopic optics are biconvex and have a posterior continuous sharp edge blocking the progression of Elschnig pearls to lower the PCO rate. The offset-shaped haptics help to achieve a significant decrease in PCO formation^{4,5,6}.

This shape enables the lens to adhere to the posterior capsule, preventing early postoperative rotation. With a large angle of contact of 137 degrees⁷ together with an anterior capsule overlap of 360 degrees (CCC diameter of 5 mm recommended) the Precizon Presbyopic design provides immediate initial lens centration.

The openings between the modified C-loop accommodate contraction of the anterior capsule up to 9 mm in diameter, and allow capsular filaments to grow through ("fibrosis anchor") to provide long-term lens stability.





- **Hybrid lens material**
- **Gentle unfolding**
- **No glistening**

The Precizon Presbyopic IOL is made of a hybrid, hydrophilic/hydrophobic acrylic material with ultraviolet filtering HEMA/EOEMA copolymer.

Due to this material, the lens has a proprietary high refractive index (1.46). The absence of silicon in the lens manufacturing process and the packing material of the finished product lowers the risk of lens opacification.

This soft hybrid acrylic material can be folded and loaded into a proprietary lens cartridge and can be drastically deformed during injection through an opening of 1.8 mm and still return to its original shape⁸⁻⁹⁾.

The material is glistening free.

Patient selection

It is well established that the main criterion for selecting a suitable cataract multifocal patient is his/her willingness to be free from glasses. When patients do not request independence from glasses and do not mind wearing them, one should not consider them for this type of IOL implant.

Positive, easy-going patients who understand that a surgical procedure has risks and are willing to accept compromises in exchange for freedom from glasses are the ideal candidates. Also, It is important to remember that refractive patients are more likely to notice the photic side effects of mIOLs than regular cataract patients.

Achieving accurate pre-operative diagnostics of the anatomy and physiology of the eye is key to success. For example, consider astigmatism magnitude, pupil sizes, angle of kappa, dry eye and eye diseases.

The table below includes some of the critical assessments and checklists for a suitable candidate, including considerations for choosing either the Precizon Presbyopic IOL model or the Precizon Presbyopic NVA model.

Success check list	Positive advice	Negative advice
Keen on independence from glasses	x	
Does not mind wearing glasses		x
Active lifestyle (e.g. Golfer)	x	
Night workers		x
Accepts & understands MIOL drawbacks	x	
Extremely critical patients		x
Near Tasks (tablet, phone, reading)	x	

Patient selection - critical assessments
Asymmetric & astigmatism >0.75 diopters
Keratoconus
3rd and 4th order aberrations
Macula functionality (OCT)
Biometry & K readings exams
4 th generation calculation formulas
Angle kappa & Pupil size
Ocular disease that may predispose future complications (e.g. anterior segment pathology, glaucoma, corneal dystrophy, ocular inflammation, pseudoexfoliation syndrome, retinal disorders)

Precizon Presbyopic • Key benefits • Patients	Precizon Presbyopic NVA • Key benefits • Patients
Critical near & intermediate vision	Excellent quality image & far vision
50/50 far/near light distribution	60/40 far/near light distribution
Neutral, positive or slightly negative corneal aberrations	Positive corneal aberrations
Older cataract patients / reading, computer work	Younger cataract patients / Active lifestyle

Evaluation of the first 400 implants of the Precizon™ Presbyopic IOL*

Question 1: Who is your ideal patient for Precizon Presbyopic?



Dr. Ramón Ruiz Mesa, Jerez de la Frontera
Doubtful Kappa and Alpha Angle.
Patients with high mesopic pupils.



Dra. Mercedes Otero
My first three patients were women - one had myopic LASIK performed 20 years ago. All of them were cataract patients, between 50 and 60 years old. They are really happy with their vision, because both far and near vision are really good.



Dr. Mariano Royo, Madrid
A woman between 50 and 75 years old, moderate myopia with a healthy fundus, or hyperopia from +1.0 up to +5.0D. No emmetropes with presbyopia.

Question 2: How are your patients?



Dr. Miguel Giménez de la Linde, Córdoba
Very happy! No halos, good intermediate and far vision. It is like a monofocal for far with very good intermediate vision and no halos!



Dr. Ramón Damborenea, Bilbao
Our patients are happy, comfortable, with good vision for far and intermediate and acceptable for near. They aren't complaining and haven't reported any halos or glare.



Dr. Germán Gómez Tellería, San Sebastián
I started to implant Precizon Presby without changing my standard way of selecting a Multifocal IOL and I got very good results. Good profile of security. Very few and very low optic phenomena. No patients with spontaneous halos: only if I ask for them.



Dra. Belén Díaz, Madrid
My patients feel comfortable with perfect night vision and without distance and middle distance glasses. Furthermore, their near vision turns out better than they expected after the preoperative explanations.



Dr. Carlos Gutiérrez Amorós, La Coruña
Patients are happy, reporting good vision for far and near. No complaints about intermediate vision when we ask them to read. No reported difficulties working with a computer. No blurred or uncomfortable vision up to one metre, like I do see with other lenses. It is surprising how patients don't complain about night light phenomenon even when we ask them about it.

PRECIZON™ Family Aspherical IOLs



PRECIZON™
Aspheric Monofocal IOL



PRECIZON™
Aspheric Toric IOL



PRECIZON™
Aspheric Presbyopic IOL



PRECIZON™ NVA
Aspheric Presbyopic IOL

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