

ROTATIONAL STABILITY
MAKES THE DIFFERENCE

3! FLEX
T

MEDI  **NTUR**

Vision of Expertise



The Bi-Flex platform – the proven platform of Excellence

01

Proven Stability – less than
2 degrees long term rotation

02

Optimal biomaterials

03

Posterior Toric Lens surface with marks
indicating the flat axis of the lens

04

Unique Bitoric Concave-Convex
technology

05

Polish-free technology for
360° Sharpe Edge

06

By far widest range of cylindrical power
for extremely astigmatic cases

07

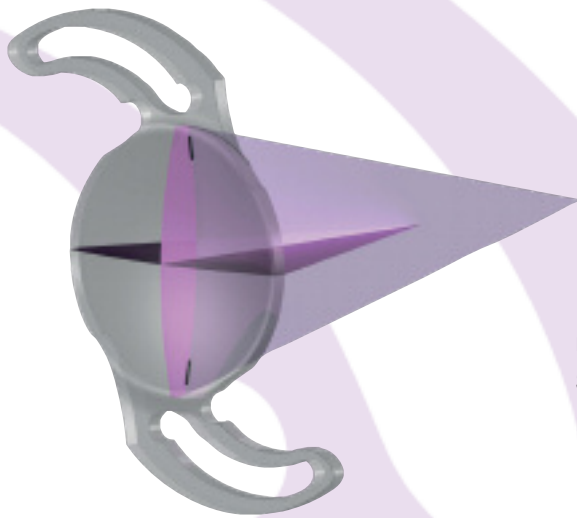
Aspheric optic with neutral
approach

08

Very low chromatic aberration
(Abbe number 58)

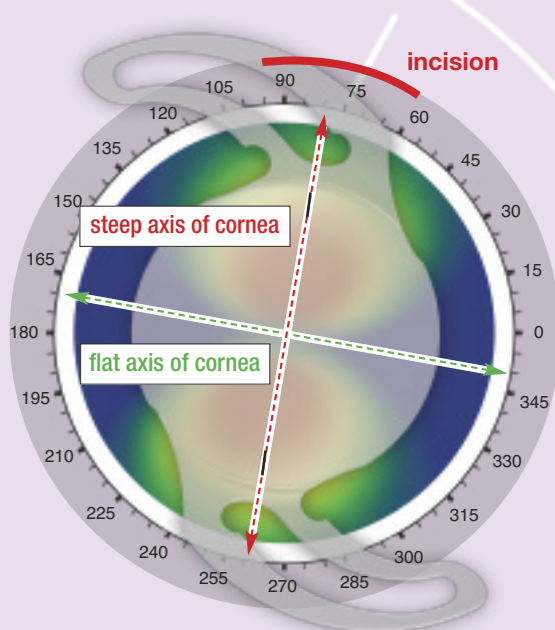


Posterior toric surface with marks indicating the flat axis of the lens



Flat axis at biggest radius = small curvature = min Power (Dpt): marked
Steep axis at smallest radius = big or hard curvature = max Power (perpendicular to marked axis)

Flat axis of the toric IOL should match with the steep axis of cornea



Steep axis of cornea should match with flat axis of the IOL indicated by marks



Unique Bitoric concave-convex technology

- By far the widest option for patients with astigmatism
- Significant reduction of the IOL thickness
- Easy folding and injection even with extremely high cylinders
- Allows manufacturing of high cylindrical powers even for highly myopic patients (IOLs with negativ SEQ)
- Protection against capsule shrinkage through adequate compression force
- **An optimised shoulder-shaped haptic** with a wide loop connection and special double joints at the haptics base
- **Polish-free** lathe milling technology for maximal precision and sharpest edge

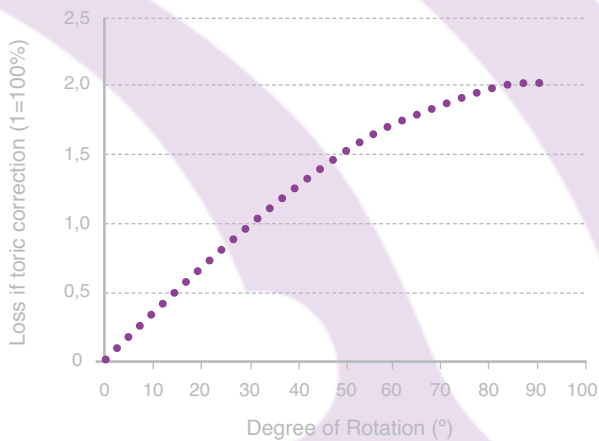




Rotational Stability – Key Factor for a Toric IOL

The rotation stability, accuracy in marking procedures and precise calculation are essential.**

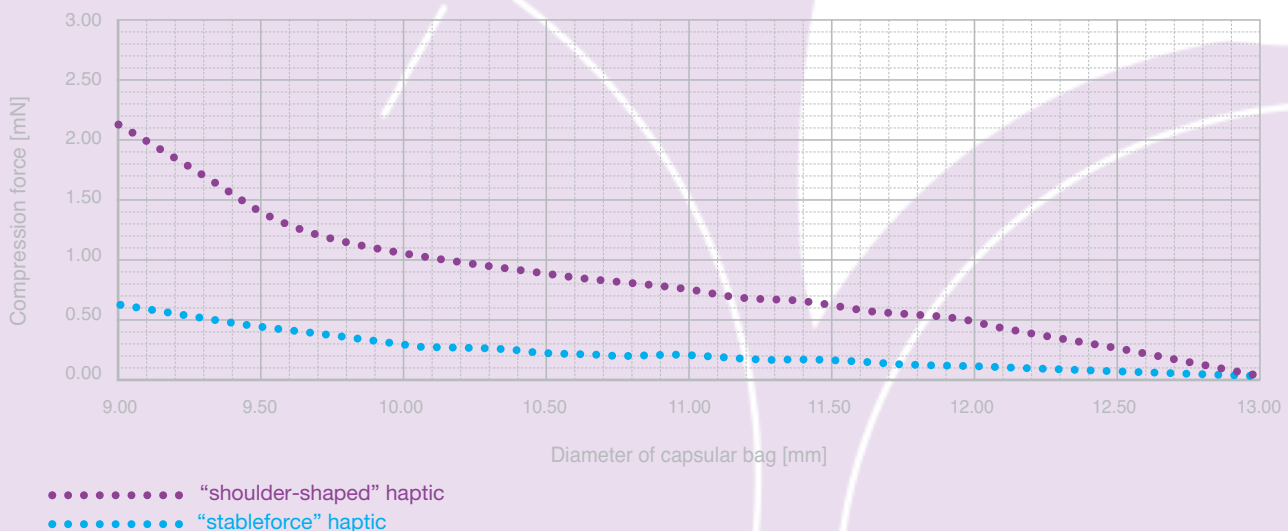
The loss of the cylindrical power in relation of the rotation of the toric IOL



- Each degree off-axis rotation results in 3.3% loss of the lens astigmatic power
- A deviation of 10 degrees decreases the potential correction by 35%
- At 30 degrees of rotation, the cylindrical power is down to 0.

Comparison of the haptic compression force of a “shoulder-shaped” Bi-Flex haptic and of a “stableforce” haptic

Graph shows superior ability of Bi-Flex T in preventing capsular shrinking throughout all capsular diameters



- “shoulder-shaped” haptic
- “stableforce” haptic

**1. Viestenz A, Seitz B, Langenbucher A. Evaluating the eye’s rotational stability during standard photography; effect of determining the axial orientation of toric intraocular lenses. J Cataract Refract Surg 2005; 31:557–561; 2. Weinand F, Jung A, Stein A, et al. Rotational stability of a single-piece hydrophobic acrylic intraocular lens: new method for high-precision rotation control. J Cataract Refract Surg 2007; 33: 800–803

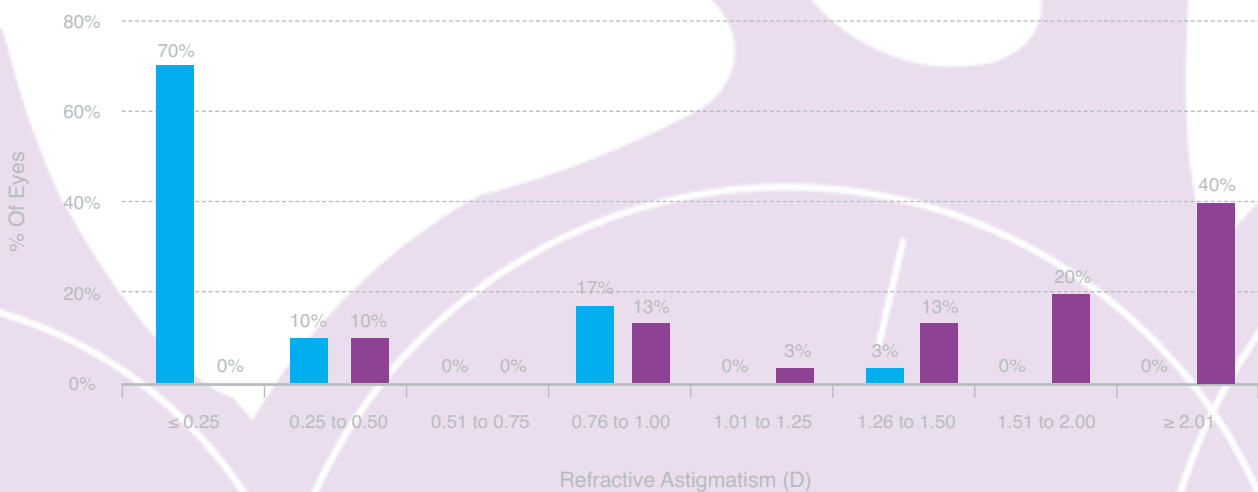


Superior rotational stability of Bi-Flex T

The study* confirmed:

- 93% of patients achieved 20/32 or better UCVA
- 100% of patients achieved 20/25 or better CDVA
- 97% of patients achieved ≤ 1.00 D of residual refractive cylinder
- **The median IOL rotation between 1 day and 3 months was 0 degree. No IOL rotated more than 2 degrees within this time period**
- 100% of implanted patients were highly satisfied and they would chose the toric Medicontur IOL Bi-Flex T again
- This prospective study was conducted at Department of Ophthalmology, Paracelsus Medical University Salzburg, Austria. There were enrolled 30 eyes of 20 consecutive patients in the study.

Postoperative Refractive Astigmatism



30 eyes, 3 months postop • ≤ 0.50 D: 80% ≤ 1.00 D: 97%

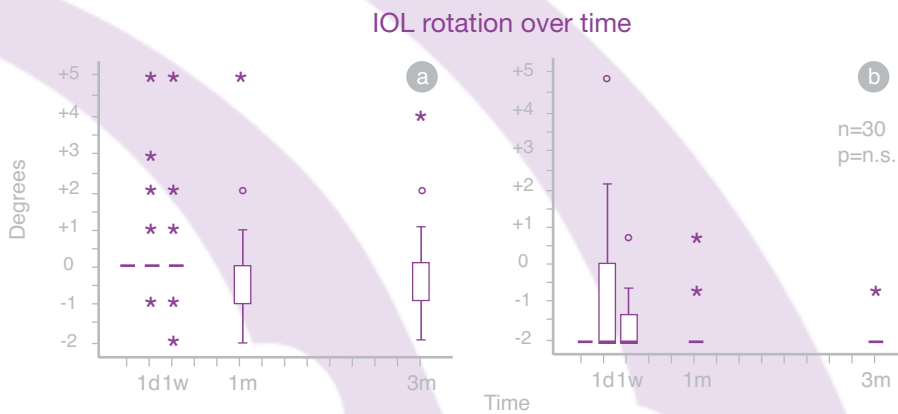
*"Most IOL rotation was seen with the first 24 hours after implantation, and we believe this misalignment may have been the result of inadequate clearing of the OVD trapped behind the IOL, causing minor IOL instability."**

* Bachernegg A, Rückl T, Riha W, Grabner G, Dexl A: Rotation stability and visual outcome after implantation of a new toric intraocular lens for the correction of corneal astigmatism during cataract surgery. J Cataract Refract Surg 2013; 39:1390-1398.



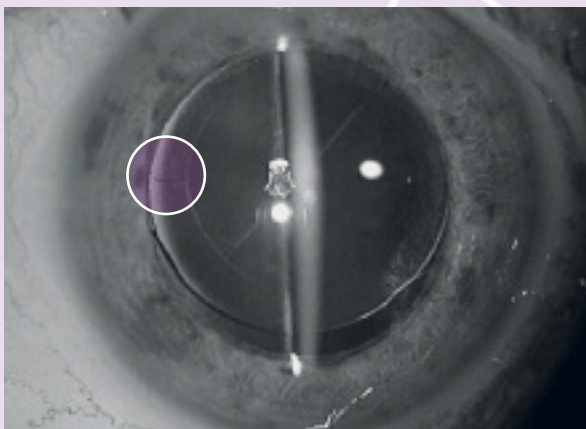
Superior rotational stability of Bi-Flex T

The success of a toric IOL can be judged by its ability to reduce refractive astigmatism immediately after surgery as well as its ability to maintain a stable position in the capsular bag over the long term.

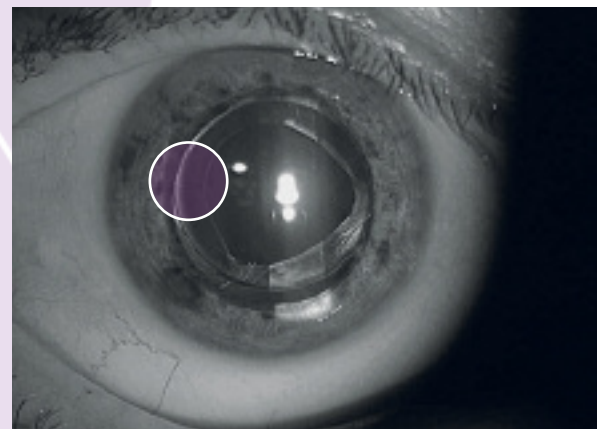


Rotation between different follow-up visits. The median IOL rotation between placement at the time of surgery and 1 day was 0 degree (range 0 to +5 degree). The median IOL rotation between 1 day and 3 months was also 0 degree. No IOL rotated more than 2 degree.*

Clinical outcome of a patient implanted by Bi-Flex T: the picture shows the rotational stability of Bi-Flex T within the follow-up period (indicated with marks on the posterior part of the optic); rotation = 0 degree



1 day after Bi-Flex T implantation



3 months after Bi-Flex T implantation. Marks on the posterior part of Bi-Flex T. Indicate outstanding rotational stability of the lens – during period 1 day-3 months axis change = 0°



Medicontur Toric Calculator Fast, Precise and Predictable results

Easy Input

- Patient data
- IOL Spherical Equivalent (SEQ)
- Choice of keratometer index for all different values used worldwide
- Expected surgically induced astigmatism
- Keratometry in millimeters for higher precision, independent from Javal/Zeiss indices
- Incision location according to the surgeons preference (Medicontur highly recommends to set the incision on the steep or flat axis for most precise and predictable outcomes.)

Precise Output

- Recommendation of an IOL model with SEQ and Cylindrical Power
- Axis placement
- Anticipated residual astigmatism
- Patient and surgeon data documentation
- Schematic drawing indicating the position of the toric IOL and incision site
- Both eyes on one page
- Print and e-mail option
- Surgery Aid in landscape format

toricalculator.net

The screenshot shows the Medicontur Toric IOL Calculator interface. It is a web-based application with a clean, professional design. The interface is divided into two main columns for the right eye (OD) and left eye (OS). Each column contains input fields for patient data, keratometry, and IOL parameters. Below the input fields are sections for 'CALCULATE CYLINDRICAL POWER' and 'IOL TABLE'. At the bottom, there are schematic drawings of the eyes showing the incision site and IOL position. The interface is user-friendly and easy to navigate.

The screenshot shows the Medicontur Surgery Aid interface. It is a web-based application with a clean, professional design. The interface is divided into four main sections: 'PERSONAL DATA', 'SURGICAL DATA', 'RIGHT EYE (OD)', and 'LEFT EYE (OS)'. Each section contains input fields for patient and surgeon data, and schematic drawings of the eyes showing the incision site and IOL position. The interface is user-friendly and easy to navigate.



Bi-Flex Platform – Design makes the difference

A unique & patented design for ultimate centration & long-term stability

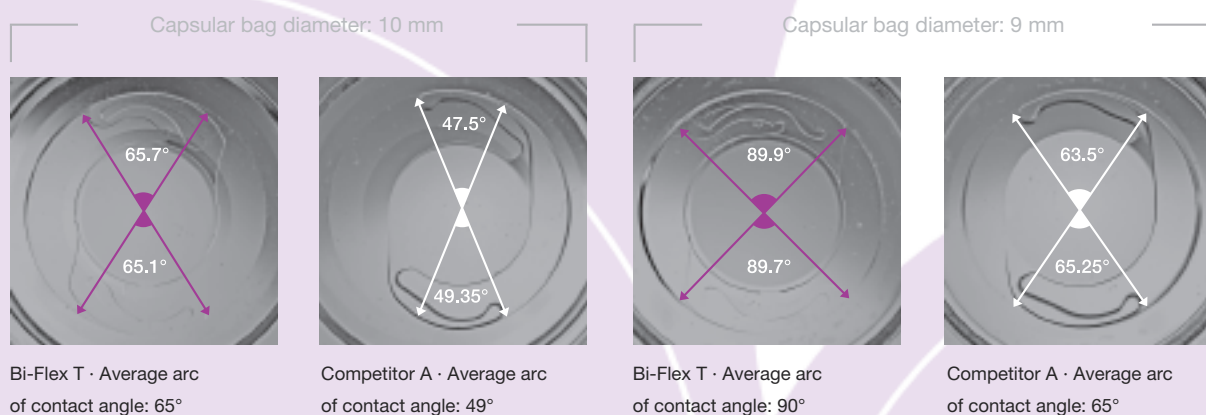
Only a specific design offering a large contact angle and adequate haptics resistance can provide long-term centration and axial, radial and rotational stability.

Bi-Flex T has the largest contact angle between haptics and capsular bag equator among all IOLs
 $2 \times 90^\circ = \text{Total } 180^\circ \text{ contact angle}$

Special double joints at the haptics base

- for immediate and symmetric unfolding
- for optimized compressibility & resistance against capsular bag shrinkage.

Experimental simulator of different capsular bag diameters



Bi-Flex T arc of contact with capsular bag equator is significantly larger.

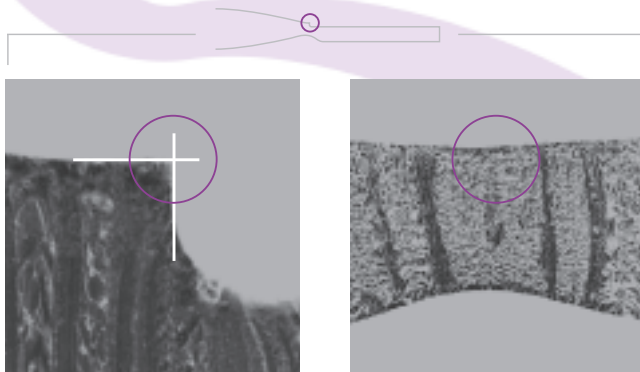


Bi-Flex Platform – Design makes the difference

Why accept an IOL construction without a 360° sharp edge?

Studies [1] [2] have highlighted the essential role of the optics profile design – especially the existence of a square edge all around the optic: only a real square edge can stop cells migration.

Comparative scanned images of IOLs marketed with "sharp edge" at the optic-haptic junction.



Bi-Flex T

Real square edge over 360°

Competitor with "stableforce" haptic

No square edge at all

Specific polish-free process of manufacturing and patented design characterize all Bi-Flex IOLs with a sharp edge all over 360° including the optic-haptic junction zone.

[1] Ohmi S: Decentration associated with asymmetric capsular shrinkage and intraocular lens size. J Cataract Refract Surg 1993; 19:640-643 [2] Shimizu K, Misawa A, Suzuki Y: Toric intraocular lenses: correcting astigmatism while controlling axis shift. J Cataract Refract Surg 1994; 20:523-526



Medicontur IOLs known since many years for their low PCO rate

Prospective comparative study with hydrophobic IOLs conducted between 2009–2012
70 eyes, 35 patients · G. Scharioth, MD, PhD, Recklinghausen, Germany

	Alcon AcrySof	Medicontur hydrophobic
PCO inside optic		
• 12 months	8	0
• 24 months	16	16
YAG capsulotomy		
• 12 months	1	0
• 24 months	5 (14%)	3 (8%)

By courtesy of G. Scharioth, MD (ESCRS 2012)

Cummulative capsulotomy rate of Medicontur hydrophilic IOLs over a 5 year period
176 eyes, 156 patients with age related cataract surgery · P. Vámosi, MD, Budapest, Hungary (2004)



By courtesy of P. Vámosi, MD



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Vision of expertise

An independent European company in existence for nearly 25 years. High quality with more than 3 million intraocular implants produced and sold.

With its international offices located near Geneva (Switzerland) and at its facilities located near Budapest (Hungary), Medicontur brings together men and women whose skills in the field of copolymer processing serve its demanding policy of continuous innovation.

During the past three years, Medicontur has developed new functional adaptations to the Bi-Flex platform, with several hydrophilic, hydrophobic and premium references.

The products of Medicontur are distributed in more than 60 countries with a growing share worldwide.