

# Barrett formulae in Aladdin HW3.0

(for sw v1.6.0 and up)

## Release Notes for the software version 1.6.0

### Introduction

This document is the official list of the changes that are included in the next software version 1.6.0 for Aladdin .

### Changes List

Referring to the latest released version 1.5.0 following is the list of the added features and bug that will be solved.

- **Integrated Barrett IOL calculation module**

Barrett IOL calculator is the IOL calculation choice of APACRS and ASCRS:

<https://www.apacrs.org/>

<http://www.ascrs.org/barrett-toric-calculator>

New deliveries of Aladdin HW3.0 are pre-installed with software v1.6.0 with the following Serial Numbers 92160283~92160285, 92160303~92160310 & 92170313→ Also the Barrett formula is pre-installed and activated. These instruments (with Barrett activated) will get a free Olsen formula activation (once available) with the next software upgrade. (v1.7.x expected May).

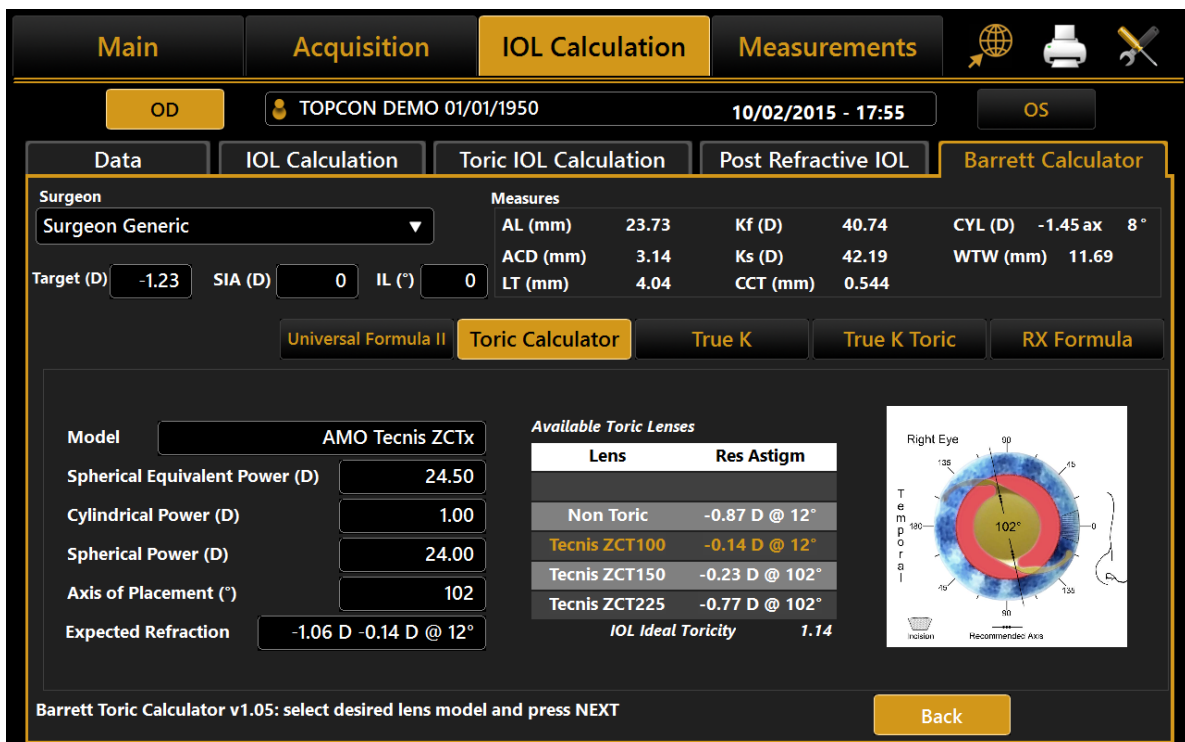
All existing Aladdin users can upgrade to v1.6.0. Once Olsen formula becomes available existing Aladdin HW3.0 (v1.6.0 and up) users can upgrade their instrument with an optional Barrett/Olsen formulae activation package, expected in May.




Item code and price of this optional Barrett/Olsen activation package will be released later.

The Barrett Calculator integrates the Barrett IOL Calculator v1.05. The calculation methods are the following:

- **Universal Formula II:** Barrett Universal II Formula v1.05, for all eyes regardless of axial length
- **Toric Calculator:** Barrett Toric Calculator v1.05, for correction of pre-existing corneal astigmatism with Toric IOLs
- **True K:** Barrett True K Formula v1.05, for eyes with prior myopic or hyperopic LASIK/PRK/RK
- **True K Toric:** Barrett True-K Toric Calculator v1.05, for eyes with prior myopic or hyperopic LASIK/PRK/RK and corneal astigmatism
- **Rx Formula:** Barrett Rx Formula v1.05, for IOL exchange and piggy back IOLs based on refraction after cataract surgery

All the formulas are based on the *Barrett Universal II Formula*.



**Main**   **Acquisition**   **IOL Calculation**   **Measurements**         

OD   TOPCON DEMO 01/01/1950   10/02/2015 - 17:55   OS

**Data**   **IOL Calculation**   **Toric IOL Calculation**   **Post Refractive IOL**   **Barrett Calculator**

Surgeon: Surgeon Generic

Measures:

AL (mm)	23.73	Kf (D)	40.74	CYL (D)	-1.45 ax 8°
ACD (mm)	3.14	Ks (D)	42.19	WTW (mm)	11.69
LT (mm)	4.04	CCT (mm)	0.544		

Target (D) -1.23   SIA (D) 0   IL (°) 0

**Universal Formula II**   **Toric Calculator**   **True K**   **True K Toric**   **RX Formula**

Model: AMO Tecnis ZCTx

Spherical Equivalent Power (D): 24.50

Cylindrical Power (D): 1.00

Spherical Power (D): 24.00

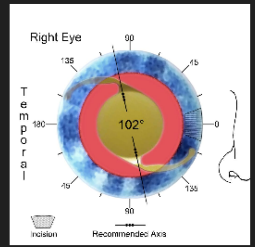
Axis of Placement (°): 102

Expected Refraction: -1.06 D -0.14 D @ 12°

Available Toric Lenses:

Lens	Res Astigm
Non Toric	-0.87 D @ 12°
Tecnis ZCT100	-0.14 D @ 12°
Tecnis ZCT150	-0.23 D @ 102°
Tecnis ZCT225	-0.77 D @ 102°

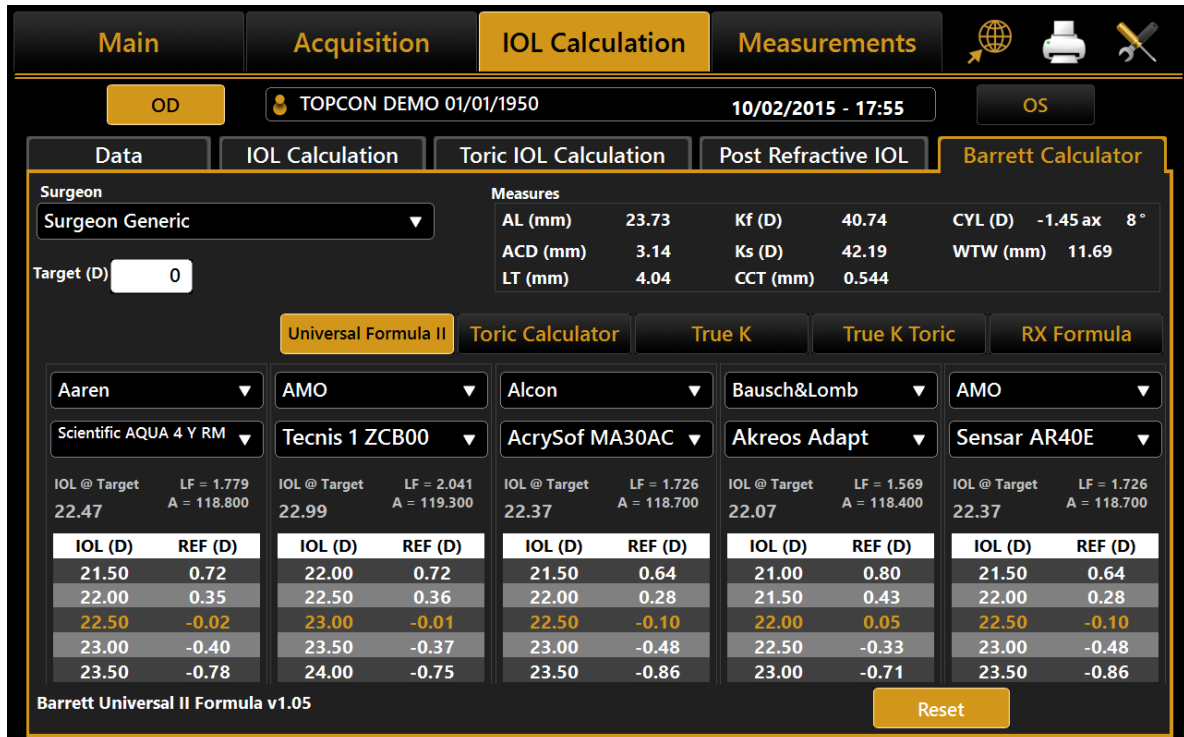
IOL Ideal Toricity: 1.14

Right Eye: 

Barrett Toric Calculator v1.05: select desired lens model and press NEXT   **Back**

### Universal Formula II (Barrett)

Barrett Universal II Formula v1.05, for all eyes regardless of axial length.



The screenshot shows the 'IOL Calculation' software interface with the 'Barrett Calculator' tab selected. The interface includes a navigation bar with 'Main', 'Acquisition', 'IOL Calculation', and 'Measurements'. Below this, there are fields for 'OD' (Left Eye) and 'OS' (Right Eye), and a patient identifier 'TOPCON DEMO 01/01/1950' with a timestamp '10/02/2015 - 17:55'. The 'Data' tab is active, showing 'Surgeon' as 'Surgeon Generic' and 'Target (D)' as '0'. The 'Measures' section displays: AL (mm) 23.73, ACD (mm) 3.14, LT (mm) 4.04, Kf (D) 40.74, Ks (D) 42.19, CCT (mm) 0.544, CYL (D) -1.45 ax 8°, and WTW (mm) 11.69. Below these are tabs for 'Universal Formula II', 'Toric Calculator', 'True K', 'True K Toric', and 'RX Formula'. The 'Universal Formula II' tab is active, showing a grid of IOL manufacturers and models. Each cell contains a table of IOL (D) vs REF (D) values. The selected lens is highlighted in orange. A 'Reset' button is located at the bottom right.

Aaren		AMO		Alcon		Bausch&Lomb		AMO	
Scientific AQUA 4 Y RM		Tecnis 1 ZCB00		AcrySof MA30AC		Akreos Adapt		Sensar AR40E	
IOL @ Target	LF = 1.779 A = 118.800	IOL @ Target	LF = 2.041 A = 119.300	IOL @ Target	LF = 1.726 A = 118.700	IOL @ Target	LF = 1.569 A = 118.400	IOL @ Target	LF = 1.726 A = 118.700
22.47		22.99		22.37		22.07		22.37	
IOL (D)	REF (D)	IOL (D)	REF (D)	IOL (D)	REF (D)	IOL (D)	REF (D)	IOL (D)	REF (D)
21.50	0.72	22.00	0.72	21.50	0.64	21.00	0.80	21.50	0.64
22.00	0.35	22.50	0.36	22.00	0.28	21.50	0.43	22.00	0.28
22.50	-0.02	23.00	-0.01	22.50	-0.10	22.00	0.05	22.50	-0.10
23.00	-0.40	23.50	-0.37	23.00	-0.48	22.50	-0.33	23.00	-0.48
23.50	-0.78	24.00	-0.75	23.50	-0.86	23.00	-0.71	23.50	-0.86

In the **“Surgeon”** field, you can choose which surgeon will perform the IOL implant and any customization of the constants or pre-setting of the preferred lenses will be applied on this basis.

In **“Target”** field the target refractive value for the Post-Op must be inserted.

The **“Measurements”** field summarizes the measurement data.

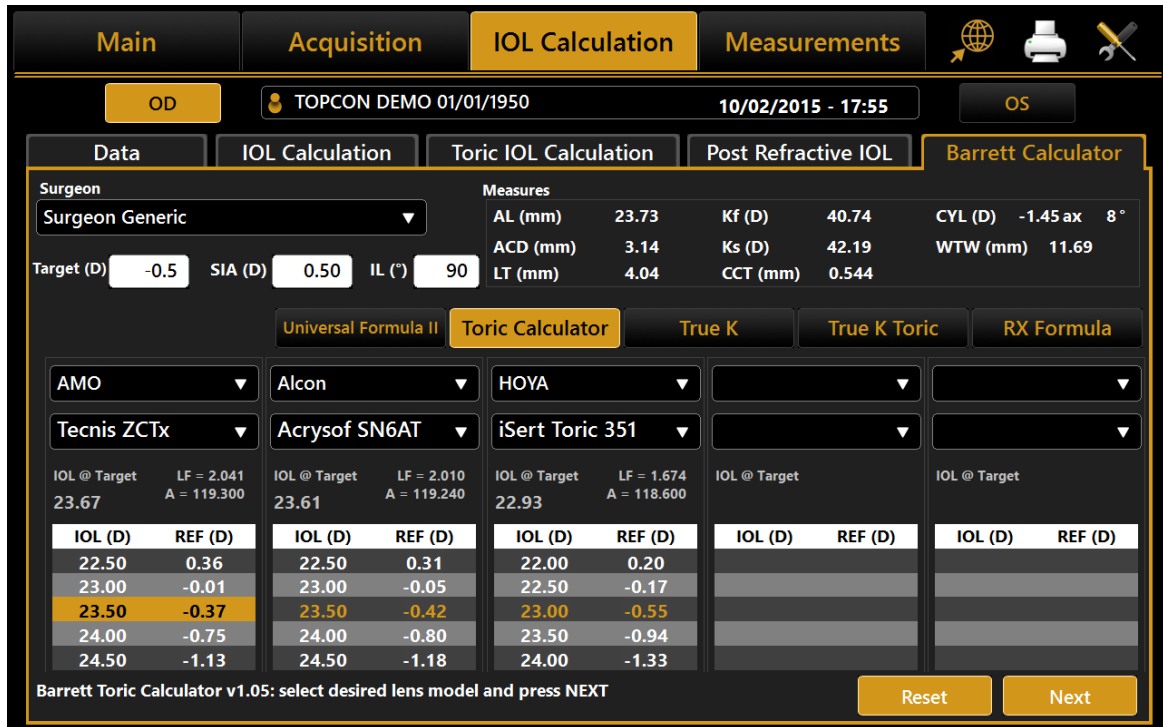
From the drop-down menu, select the IOL manufacturer and model with which to calculate the best lens.

Once this data has been entered, the most appropriate lens can be chosen at the discretion of the surgeon. The latter is highlighted in orange. Once selected, the lens will be memorized as the preferred one and will be shown highlighted on the report printout.

Pressing **“Reset”** will reset the initial preset conditions.

[Toric Calculator \(Barrett\)](#)

Barrett Toric Calculator v1.05, for correction of pre-existing corneal astigmatism with Toric IOLs.



Toric Calculator (Barrett) is divided into two main steps. The first one consists on the calculation of the Spherical Equivalent Power; in the second one you can select the toric IOL that produce the best correction.

The first-step interface that has quite the same structure as the spherical IOL calculation. The available toric lenses you can select come from a list of models whose calculation constants have been published by their manufacturer. The user can in case insert new toric manufacturers and/or models inside toric IOL settings section.

In addition to choosing the “Target”, you need to specify also the “Surgical Induced Astigmatism (SIA)” and “Incision Location (IL)”. The former identify the astigmatism (in diopters) induced by the incision while the latter identify the surgical incision axis.

After having selected the Toric IOL model, a values table from which the **Spherical Equivalent Power** is obtained. Once you choose a lens, pressing “Next” at the bottom right, you enter in the second-step of Toric IOL calculation.

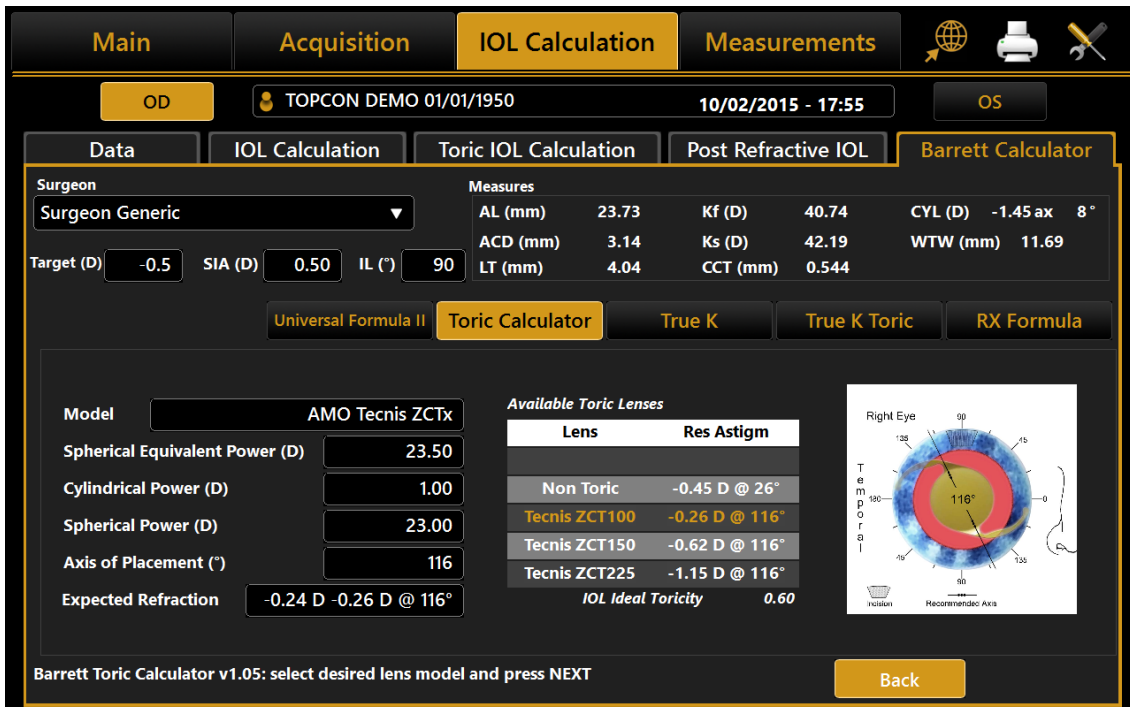


Figure 1

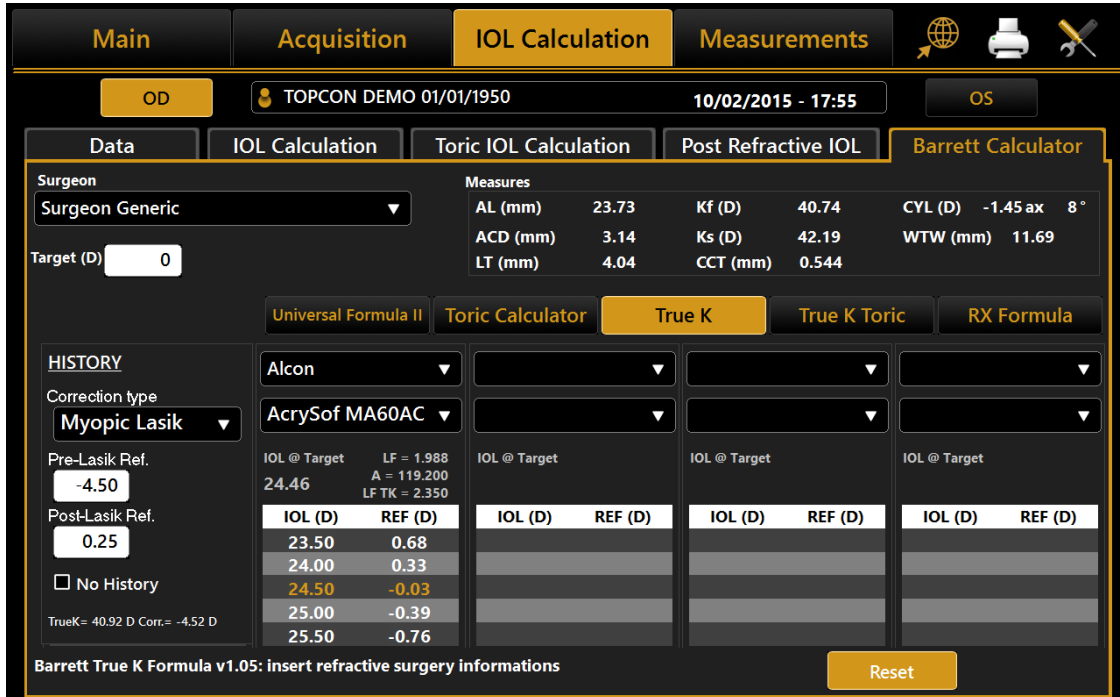
As a result, the “**Toric Calculator**” frame, immediately below, details the best toric lens computed automatically by the system for the manufacturer and model selected previously in the first-step.

From “**Available Toric Lenses**” table you can choose also a different cylinder value for the lens, based on the Residual Astigmatism you want to achieve (under-correction/overcorrection). In particular, the best Toric lens value is shown in the central row and (if available) the ones that under-correct above the central row, the ones that overcorrect below.

At the right side, you can find an image that illustrates the ideal position of the IOL once the implant is in place and the incision location angle.

## True K (Barrett)

Barrett True K Formula v1.05, for eyes with prior myopic or hyperopic LASIK/PRK/RK.



The screenshot shows the TOPCON IOL Calculation software interface. The 'Barrett Calculator' tab is selected. The 'Measures' section displays the following data:

AL (mm)	23.73	Kf (D)	40.74	CYL (D)	-1.45 ax 8°
ACD (mm)	3.14	Ks (D)	42.19	WTW (mm)	11.69
LT (mm)	4.04	CCT (mm)	0.544		

The 'HISTORY' section shows the correction type set to 'Myopic Lasik'. The 'Pre-Lasik Ref.' is -4.50 and the 'Post-Lasik Ref.' is 0.25. The 'TrueK' value is 40.92 D and the 'Corr.' is -4.52 D. The 'IOL @ Target' table shows the following values:

IOL (D)	REF (D)
23.50	0.68
24.00	0.33
24.50	-0.03
25.00	-0.39
25.50	-0.76

The interface also includes a 'Target (D)' field set to 0, a 'Surgeon' dropdown set to 'Surgeon Generic', and a 'Reset' button at the bottom right.

In "**Target**" field the target refractive value for the cataract Post-OP must be inserted.

The "**Measurements**" field summarizes the measurement data.

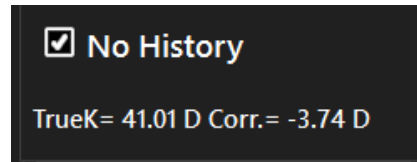
In the "**HISTORY**" section select the correction type performed in the preceding Refractive Surgery:

- **Myopic Lasik**
- **Hyperopic Lasik**
- **Radial Keratotomy**

Insert the measured Refraction (**Pre-Lasik Ref., in dioptres**) before the Refractive Surgery and the measured Refraction (**Post-Lasik Ref., in dioptres**) after the Refractive Surgery, accordingly the selected correction type.

Pre-Lasik Ref. must be negative for Myopic Lasik and Radial Keratotomy corrections, while must be positive for Hyperopic Lasik.

Otherwise select “**No History**” if pre and post refractive surgery measurements are not available in order to obtain an estimate of the correction amount based on the correction type and the eye biometry data.



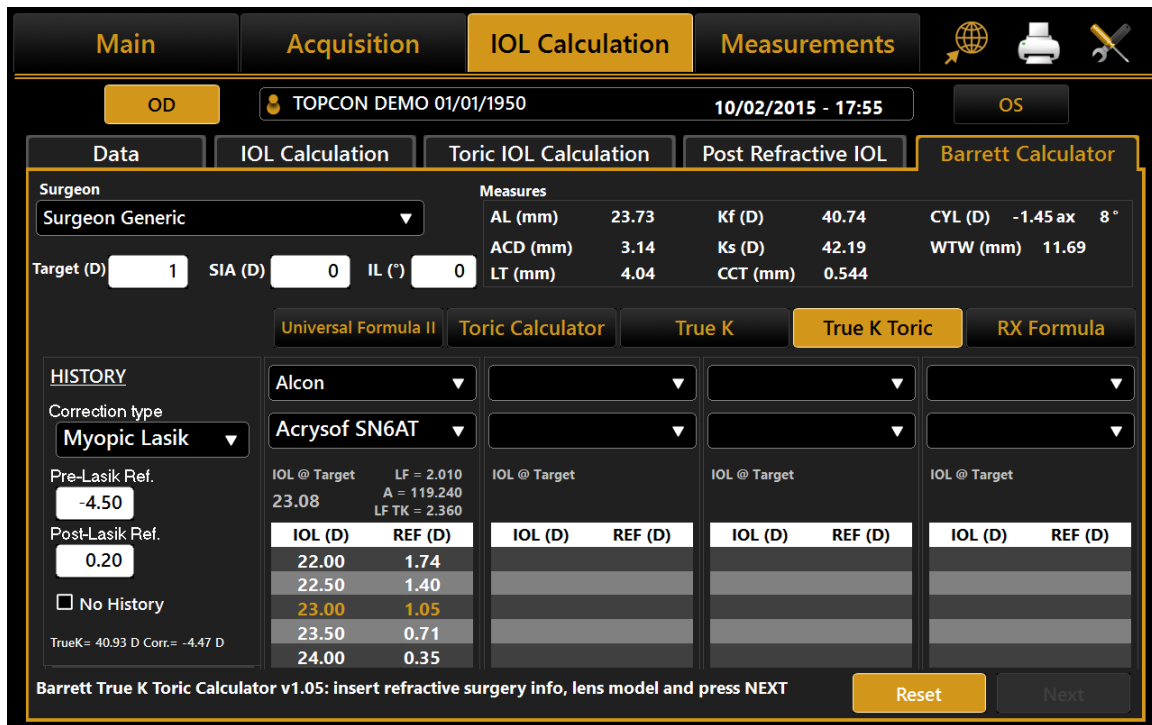
From the drop-down menu, select the IOL manufacturer and model with which to calculate the best lens.

Once this data has been entered, the most appropriate lens can be chosen at the discretion of the surgeon. The latter is highlighted in orange. Once selected, the lens will be memorized as the preferred one and will be shown highlighted on the report printout.

Pressing “**Reset**” will reset the initial pre-set conditions.

True K Toric (Barrett)

Barrett True-K Toric Calculator v1.05, for eyes with prior myopic or hyperopic LASIK/PRK/RK and corneal astigmatism.



True K Toric Calculator (Barrett) is divided into two main steps. The first one consists on the calculation of the Spherical Equivalent Power; in the second one you can select the Toric IOL that produce the best correction.

The first-step interface that has quite the same structure as the spherical IOL calculation. The available Toric lenses you can select come from a list of models whose calculation constants have been published by their manufacturer. The user can in case insert new Toric manufacturers and/or models inside Toric IOL settings section.

In addition to choosing the “Target”, you need to specify also the “Surgical Induced Astigmatism (SIA)” and “Incision Location (IL)”. The former identify the astigmatism (in diopters) induced by the incision while the latter identify the surgical incision axis.



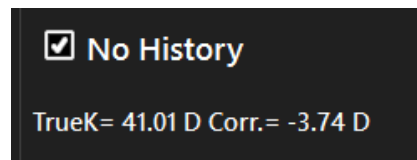
In the **"HISTORY"** section select the correction type performed in the proceeding Refractive Surgery:

- **Myopic Lasik**
- **Hyperopic Lasik**
- **Radial Keratotomy**

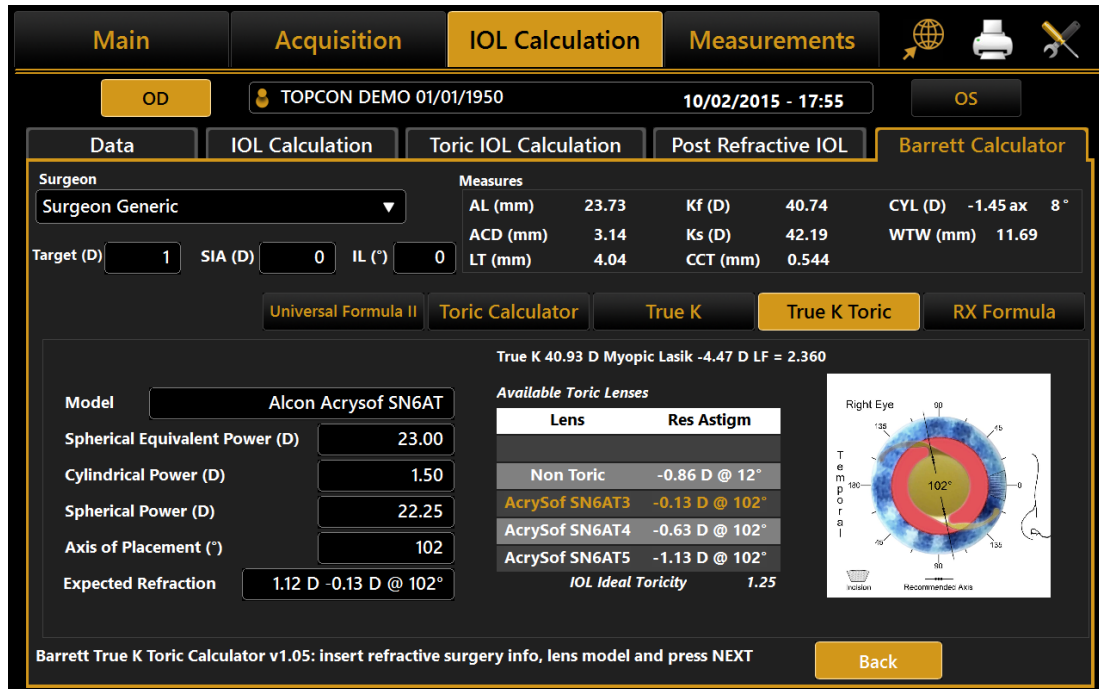
Insert the measured Refraction (**Pre-Lasik Ref., in diopters**) before the Refractive Surgery and the measured Refraction (**Post-Lasik Ref., in diopters**) after the Refractive Surgery, accordingly the selected correction type.




Pre-Lasik Ref. must be negative for Myopic Lasik and Radial Keratotomy corrections, while must be positive for Hyperopic Lasik.

Otherwise select **"No History"** if pre and post refractive surgery measurements are not available in order to obtain an estimate of the correction amount based on the correction type and the eye biometry data.



After having selected the toric IOL model, a values table from which the **Spherical Equivalent Power** is obtained. Once you choose a lens, pressing **"Next"** at the bottom right, you enter in the second-step of True K toric IOL calculation.



**Main**   **Acquisition**   **IOL Calculation**   **Measurements**         

OD   TOPCON DEMO 01/01/1950   10/02/2015 - 17:55   OS

**Data**   **IOL Calculation**   **Toric IOL Calculation**   **Post Refractive IOL**   **Barrett Calculator**

Surgeon: Surgeon Generic

Measures: AL (mm) 23.73, Kf (D) 40.74, CYL (D) -1.45 ax 8°, ACD (mm) 3.14, Ks (D) 42.19, WTW (mm) 11.69, LT (mm) 4.04, CCT (mm) 0.544

Target (D) 1   SIA (D) 0   IL (°) 0

Universal Formula II   **Toric Calculator**   True K   **True K Toric**   RX Formula

True K 40.93 D Myopic Lasik -4.47 D LF = 2.360

Model: Alcon AcrySof SN6AT

Spherical Equivalent Power (D) 23.00

Cylindrical Power (D) 1.50

Spherical Power (D) 22.25

Axis of Placement (°) 102

Expected Refraction 1.12 D -0.13 D @ 102°

Available Toric Lenses	
Lens	Res Astigm
Non Toric	-0.86 D @ 12°
AcrySof SN6AT3	-0.13 D @ 102°
AcrySof SN6AT4	-0.63 D @ 102°
AcrySof SN6AT5	-1.13 D @ 102°
<i>IOL Ideal Toricity 1.25</i>	

Right Eye Diagram: Shows a circular diagram of the eye with a recommended axis of 102° and a residual astigmatism of 1.50 D.

Barrett True K Toric Calculator v1.05: insert refractive surgery info, lens model and press NEXT   **Back**

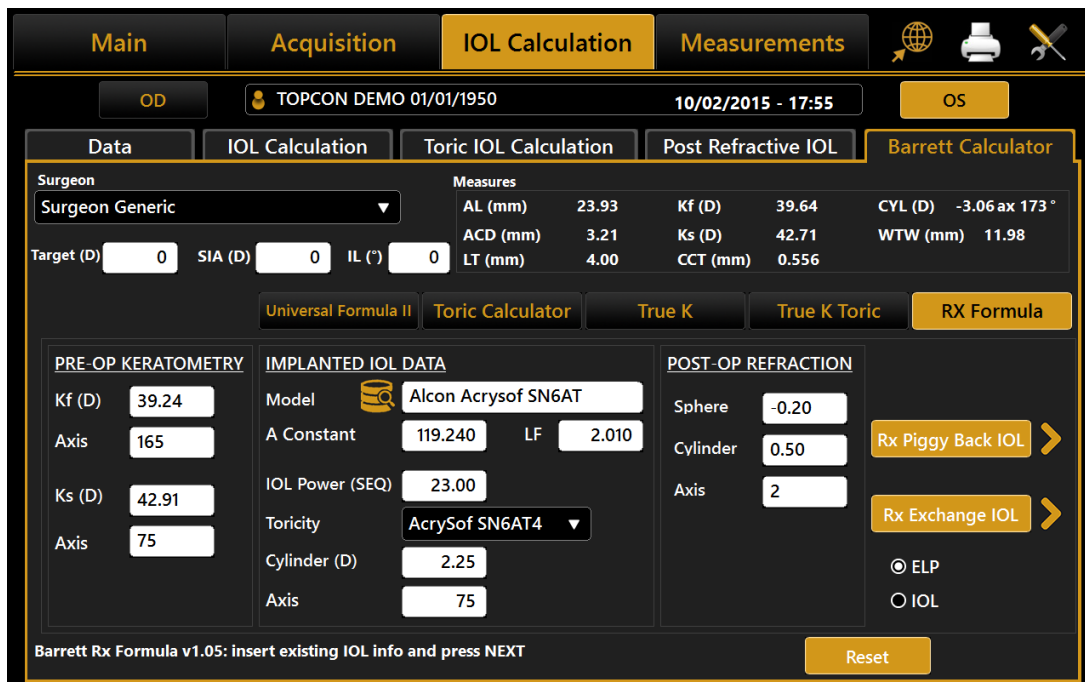
As a result, the “True K Toric” frame, immediately below, details the best Toric lens computed automatically by the system for the manufacturer and model selected previously in the first-step.

From “Available Toric Lenses” table you can choose also a different cylinder value for the lens, based on the Residual Astigmatism you want to achieve (under-correction/overcorrection). In particular, the best Toric lens value is shown in the central row and (if available) the ones that under-correct above the central row, the ones that overcorrect below.

At the right side, you can find an image that illustrates the ideal position of the IOL once the implant is in place and the incision location angle.

**RX Formula (Barrett)**

Barrett Rx Formula v1.05, for IOL exchange and piggy back IOLs based on refraction after cataract surgery.



The screenshot displays the 'Barrett Calculator' interface with the following data:

Surgeon		Measures				
Surgeon Generic		AL (mm)	23.93	Kf (D)	39.64	CYL (D) -3.06 ax 173 °
Target (D)	0	ACD (mm)	3.21	Ks (D)	42.71	WTW (mm) 11.98
SIA (D)	0	LT (mm)	4.00	CCT (mm)	0.556	
IL (°)	0					

PRE-OP KERATOMETRY	IMPLANTED IOL DATA	POST-OP REFRACTION
Kf (D) 39.24	Model Alcon Acrysof SN6AT	Sphere -0.20
Axis 165	A Constant 119.240 LF 2.010	Cylinder 0.50
Ks (D) 42.91	IOL Power (SEQ) 23.00	Axis 2
Axis 75	Toricity AcrySof SN6AT4	
	Cylinder (D) 2.25	
	Axis 75	

Buttons: Rx Piggy Back IOL, Rx Exchange IOL, ELP, IOL, Reset


Bottom text: Barrett Rx Formula v1.05: insert existing IOL info and press NEXT

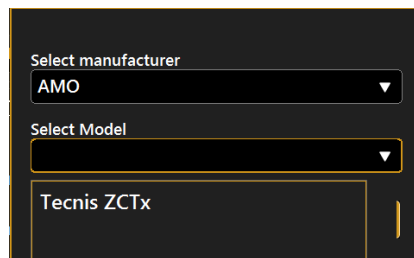
RX Formula (Barrett) is divided into two main steps. The first one consists in inserting all the information regarding the current situation of the patient’s eye.

The **“Measurements”** field summarizes the measurement data achieved in the current exam, and they represent the current eye biometry.

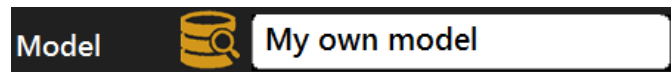
In **“Target”** field the target refractive value for the new surgery Post-OP must be inserted. In addition to choosing the **“Target”**, you need to specify also the **“Surgical Induced Astigmatism (SIA)”** and **“Incision Location (IL)”**. The former identify the astigmatism (in diopters) induced by the incision while the latter identify the surgical incision axis.

In the section “PRE-OP KERATOMETRY” you can insert the Keratometry data that was measured before the first cataract surgery. In the section “IMPLANTED IOL DATA” you can insert information about the IOL implanted in the first cataract surgery:

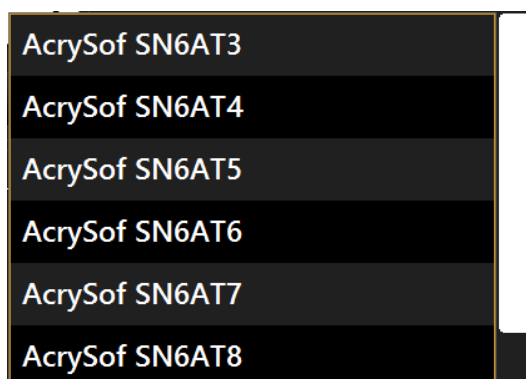
- Model: allows to insert the implanted IOL model:
  - selecting from the on-board database of Toric IOL lenses, by using the  button which opens the selection list



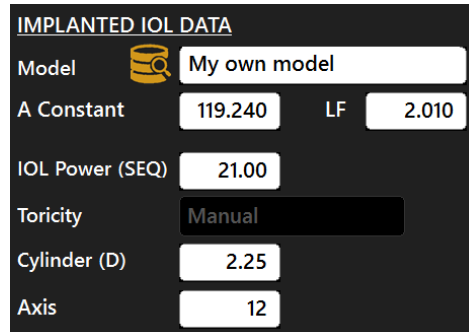
- Inserting manually the description of the implanted IOL



- A Constant/ LF: are the calculations constants used for the calculation performed to select the power of the IOL implanted in the first cataract surgery, are filled automatically if the lens model is selected from the on-board archive or must be inserted manually for manually inserted models.  
Adjust the appropriate Lens Factor/A Constant for IOL by subtracting 0.25 mm from Lens Factor "bag" constant if IOL in sulcus.
- IOL Power (SEQ): is the spherical Equivalent power of the Implanted IOL
- Toricity: is the cylinder value selection list for the toricity of the implanted IOL, it's automatically populated with a list of cylinder values and sub models if the implanted IOL information has been selected from the on board database



Otherwise if the IOL model information has been inserted manually, this list is locked to “Manual” and the cylinder value must be inserted manually



The screenshot shows a form titled "IMPLANTED IOL DATA" with the following fields and values:

Field	Value
Model	My own model
A Constant	119.240
LF	2.010
IOL Power (SEQ)	21.00
Toricity	Manual
Cylinder (D)	2.25
Axis	12

- Cylinder: is the cylinder value of the implanted IOL which can be inserted manually or selected from the Toricity list if available
- Axis: is the axis of placement of the implanted toric IOL

In the section “POST-OP REFRACTION” you can insert information about the refraction measured after the first cataract surgery during which the Implanted IOL described in the “Implanted IOL data” was applied.

All the mentioned values are required to proceed in the second step of the RX Formula. Then it's possible to proceed to the second step using one of the two available options:

- Rx Piggy Back IOL
- Rx Exchange IOL

Choose between the two options:

- ELP(default) if an error in the predicted ELP is assumed
- IOL for Post Lasik, RK or Low Diopters IOL where predicted ELP is unreliable

The recommended IOL/Piggy Back IOL and Refractive Outcome are calculated according the Barrett Universal II Formual and Barrett Toric Calculator.

**Main** **Acquisition** **IOL Calculation** **Measurements**

OD TOPCON DEMO 01/01/1950 10/02/2015 - 17:55 OS

Data IOL Calculation **Toric IOL Calculation** Post Refractive IOL **Barrett Calculator**

Surgeon: Surgeon Generic

Measures: AL (mm) 23.73 Kf (D) 40.74 CYL (D) -1.45 ax 8°  
 ACD (mm) 3.14 Ks (D) 42.19 WTW (mm) 11.69  
 LT (mm) 4.04 CCT (mm) 0.544

Target (D) 0 SIA (D) 0 IL (°) 0

Universal Formula II **Toric Calculator** True K True K Toric **RX Formula**

**Rx PiggyBack IOL**  
 -1.00 D (S.E.) 0.00 D @ 0°  
 Cylinder Power: IOL Plane 0.00 D ~ Corneal Plane 0.69 D

Predicted Refraction:  
 0.21 D sph. 0.00 D @ 0°  
 Existing Refractive Error: -0.70 D sph. 0.00 D @ 0°

Optimized Constants  
 AConst = 117.400, LF = 1.050  
 Calculated SIA: 0.00 D @ 8°

IOL Power	Refraction (S.E.)
-1.50 (Meniscus)	0.64 D
-1.00 (Meniscus)	0.21 D
-0.50 (Meniscus)	-0.22 D

IOL model	Res. Cylinder
T-0.0	0.00 D @ 0°
T-0.5	-0.35 D @ 180°

Barrett Rx Exchange: PiggyBack IOL Back

The recommended TORIC IOL and Axis alignment for the targeted refractive outcome is displayed. The axis that provides the minimum astigmatism for the existing IOL is calculated as well as the rotation in degrees from the current axis of the existing implanted IOL.

The SIA and Optimised Lens Factor/A Constant are provided according to the pre and post op Keratometry and the refractive outcome.

**Main** **Acquisition** **IOL Calculation** **Measurements**

OD TOPCON DEMO 01/01/1950 10/02/2015 - 17:55 OS

Data IOL Calculation **Toric IOL Calculation** Post Refractive IOL **Barrett Calculator**

Surgeon: Surgeon Generic

Measures: AL (mm) 23.93 Kf (D) 39.64 CYL (D) -3.06 ax 173°  
 ACD (mm) 3.21 Ks (D) 42.71 WTW (mm) 11.98  
 LT (mm) 4.00 CCT (mm) 0.556

Target (D) 0 SIA (D) 0 IL (°) 0

Universal Formula II **Toric Calculator** True K True K Toric **RX Formula**

**Alcon AcrySof SN6AT**

LF = 2.010 AConst = 119.240

IOL Power	Refraction (S.E.)
22.50 (Biconvex)	0.55 D
23.00 (Biconvex)	0.05 D
23.50 (Biconvex)	-0.29 D

IOL model	Res. Cylinder
Non Toric	-1.21 D @ 158°
AcrySof SN6AT3	-0.15 D @ 158°
AcrySof SN6AT4	-0.38 D @ 68°

**Rx Exchange IOL: Alcon AcrySof SN6AT3**  
 23.00 D (S.E.) 1.50 D @ 68°  
 Cylinder Power: IOL Plane 1.50 D ~ Corneal Plane 1.06 D

Predicted Refraction:  
 0.13 D sph. -0.15 D @ 158°  
 Existing Refractive Error: -0.20 D sph. 0.50 D @ 2°

Optimized Constants  
 AConst = 119.600, LF = 2.190  
 Calculated SIA: -1.10 D @ 140°

Barrett Rx Exchange: select desired lens model to calculate Back

### *Barrett Reports*

Together with each Barrett IOL calculation function it is available the relative report.

<input type="checkbox"/> Aladdin	<u>BARRETT IOL CALCULATOR</u> <input type="checkbox"/> Barrett Universal II Formula <input type="checkbox"/> Barrett Toric Calculator <input type="checkbox"/> Barrett True K <input type="checkbox"/> Barrett True K Toric Calculator <input type="checkbox"/> Barrett Rx Formula
<input type="checkbox"/> Measurements	
<input type="checkbox"/> Pupil	
<input checked="" type="checkbox"/> IOL	



Topcon Europe Medical BV

Patient : TOPCON DEMO  
 Patient ID : TPCDM010150  
 Date Of Birth : 01/01/1950  
(dd/mm/yyyy)

Surgeon : SURGEON GENERIC  
 Exam Date : 10/02/2015 - 17:55  
(dd/mm/yyyy)

**OD** Correction type:: Lasik Miopia  
 Pre-Op Refr: -2.30 D Pre-Op Refr: 0.00 D  
 Phakic

**OS**  
 Phakic

Data Measurements n : 1.3375

Aladdin Optical  
 AL : 23.73mm K1 : 40.74D @ 8°  
 ACD : 3.14mm K2 : 42.19D @ 98°  
 LT : 4.04mm CYL : -1.45D ax 8°  
 CCT : 0.544mm AvgK : 41.47D  
 WTW : 11.69mm

Data Measurements n : 1.3375

Aladdin Optical  
 AL : 23.93mm K1 : 39.64D @ 173°  
 ACD : 3.21mm K2 : 42.71D @ 83°  
 LT : 4.00mm CYL : -3.06D ax 173°  
 CCT : 0.556mm AvgK : 41.17D  
 WTW : 11.98mm

Target Refraction: 0 True K= 41.20 D Corr.= -2.24 D

Target Refraction: 0

AMO  
 PS60 ANB

IOL(D)	REF(D)

IOL @ Target

Barrett U. II True K	
IOL(D)	REF(D)
22.00	0.83
22.50	0.47
<b>23.00</b>	<b>0.11</b>
23.50	-0.26
24.00	-0.64

IOL @ Target LF = 1.726  
 A = 118.700  
 23.15 LF TK = 1.920

IOL(D)	REF(D)

IOL @ Target

IOL(D)	REF(D)

IOL @ Target

IOL(D)	REF(D)

IOL @ Target

IOL(D)	REF(D)

IOL @ Target

IOL(D)	REF(D)

IOL @ Target

IOL(D)	REF(D)

IOL @ Target

IOL(D)	REF(D)

IOL @ Target

IOL(D)	REF(D)

IOL @ Target





Topcon Europe Medical BV

Patient : TOPCON DEMO  
 Patient ID : TPCDM010150  
 Date Of Birth : 01/01/1950  
(dd/mm/yyyy)

Surgeon : SURGEON GENERIC  
 Exam Date : 10/02/2015 - 17:55  
(dd/mm/yyyy)

**OD**

**OS**

Phakic

Phakic

Data Measurements n : 1.3375

Data Measurements n : 1.3375

Aladdin Optical

Aladdin Optical

AL : 23.73mm K1 : 40.74D @ 8°  
 ACD : 3.14mm K2 : 42.19D @ 98°  
 LT : 4.04mm CYL : -1.45D ax 8°  
 CCT : 0.544mm AvgK : 41.47D  
 WTW : 11.69mm

AL : 23.93mm K1 : 39.64D @ 173°  
 ACD : 3.21mm K2 : 42.71D @ 83°  
 LT : 4.00mm CYL : -3.06D ax 173°  
 CCT : 0.556mm AvgK : 41.17D  
 WTW : 11.98mm

Target Refraction: 0

Target Refraction: 0

Alcon  
AcrySof MA50BM

Aaren  
Scientific AQUA 4 Y RM

Barrett Universal II	
IOL(D)	REF(D)
22.00	0.79
22.50	0.43
<b>23.00</b>	<b>0.07</b>
23.50	-0.30
24.00	-0.67

Barrett Universal II	
IOL(D)	REF(D)
21.50	0.72
22.00	0.35
<b>22.50</b>	<b>-0.02</b>
23.00	-0.40
23.50	-0.78

IOL @ Target LF = 2.093  
23.10 A = 119.400

IOL @ Target LF = 1.779  
22.47 A = 118.800

Oculentis  
L-303

Oculentis  
L-313

Barrett Universal II	
IOL(D)	REF(D)
21.00	0.58
21.50	0.20
<b>22.00</b>	<b>-0.18</b>
22.50	-0.56
23.00	-0.95

Barrett Universal II	
IOL(D)	REF(D)
20.50	0.81
21.00	0.43
<b>21.50</b>	<b>0.06</b>
22.00	-0.33
22.50	-0.71

IOL @ Target LF = 1.517  
21.77 A = 118.300

IOL @ Target LF = 1.412  
21.58 A = 118.100

AMO  
Technis 1 ZCB00

AMO  
Sensor AR40E

Barrett Universal II	
IOL(D)	REF(D)
22.00	0.72
22.50	0.36
<b>23.00</b>	<b>-0.01</b>
23.50	-0.37
24.00	-0.75

Barrett Universal II	
IOL(D)	REF(D)
21.50	0.64
22.00	0.28
<b>22.50</b>	<b>-0.10</b>
23.00	-0.48
23.50	-0.86

IOL @ Target LF = 2.041  
22.99 A = 119.300

IOL @ Target LF = 1.726  
22.37 A = 118.700

Oculentis  
LS-313 MF30

Oculentis  
LS-313 MF30

Barrett Universal II	
IOL(D)	REF(D)
21.00	0.72
21.50	0.35
<b>22.00</b>	<b>-0.03</b>
22.50	-0.40
23.00	-0.79

Barrett Universal II	
IOL(D)	REF(D)
21.00	0.72
21.50	0.35
<b>22.00</b>	<b>-0.03</b>
22.50	-0.40
23.00	-0.79

IOL @ Target LF = 1.622  
21.97 A = 118.500

IOL @ Target LF = 1.622  
21.97 A = 118.500

Alcon  
ReSTOR SA60D3

Oculentis  
LS-313 MF30

Barrett Universal II	
IOL(D)	REF(D)
21.00	0.87
21.50	0.50
<b>22.00</b>	<b>0.13</b>
22.50	-0.25
23.00	-0.63

Barrett Universal II	
IOL(D)	REF(D)
21.00	0.72
21.50	0.35
<b>22.00</b>	<b>-0.03</b>
22.50	-0.40
23.00	-0.79

IOL @ Target LF = 1.622  
22.17 A = 118.500

IOL @ Target LF = 1.622  
21.97 A = 118.500



**Topcon Europe Medical BV**

Patient : **TOPCON DEMO**

Surgeon : **Surgeon Generic**

Patient ID : **TPCDM010150**

Exam Date : **10/02/2015 - 17:55**  
(dd/mm/yyyy)

Date Of Birth : **01/01/1950**  
(dd/mm/yyyy)

**OD**

Phakic

Measurements (Aladdin Optical)

K1:	<b>40.74 D</b>	AL:	<b>23.73 mm</b>	LT:	<b>4.04 mm</b>	WTW:	<b>11.69 mm</b>
K2:	<b>42.19 D</b>	ACD:	<b>3.14 mm</b>	CCT:	<b>0.544 mm</b>	WTW Dec	<b>(-0.22,-0.29) mm</b>
CYL:	<b>-1.45 D @ 8°</b>						
n:	<b>1.3375</b>						

Refractive surgery history

Correction type:	<b>Myopic Lasik</b>	Pre Lasik Refraction:	<b>-2.30 D</b>
		Post Lasik Refraction:	<b>0.00 D</b>

Toric IOL

Target Refraction: **0.00 D**      SIA: **0.00 D**      IL: **98°**

**Toric IOL: HOYA Non Toric**  
**23.00 D (S.E.) 0.00 D @ 102°**

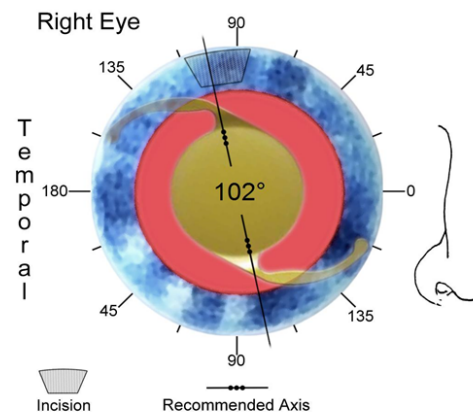
LF = 1.674, A constant = 118.600

Cylinder Power: IOL Plane 0.00 D ~ Corneal Plane 0.00 D

Predicted refraction:

**0.47 D sph. -0.88 D @ 12°**

True K 41.20 D Myopic Lasik -2.24 D LF = 1.860



IOL Power (S.E.)	Refraction (S.E.)	IOL submodel	IOL toricity	Residual astigmatism
22.00 D	0.76 D	n.a.	n.a.	n.a.
22.50 D	0.40 D	n.a.	n.a.	n.a.
<b>23.00 D</b>	<b>0.03 D</b>	<b>Non Toric</b>	<b>0.00 D</b>	<b>-0.88 D @ 12°</b>
23.50 D	-0.34 D	351 T3	1.50 D	-0.19 D @ 102°
24.00 D	-0.72 D	351 T4	2.25 D	-0.73 D @ 102°



**Topcon Europe Medical BV**

Patient : TOPCON DEMO

Surgeon : Surgeon Generic

Patient ID : TPCDM010150

Exam Date : 10/02/2015 - 17:55  
(dd/mm/yyyy)

Date Of Birth : 01/01/1950  
(dd/mm/yyyy)

**OD**

Phakic

Measurements (Aladdin Optical)

K1:	<b>40.74 D</b>	AL:	<b>23.73 mm</b>	LT:	<b>4.04 mm</b>	WTW:	<b>11.69 mm</b>
K2:	<b>42.19 D</b>	ACD:	<b>3.14 mm</b>	CCT:	<b>0.544 mm</b>	WTW Dec	<b>(-0.22,-0.29) mm</b>
CYL:	<b>-1.45 D @ 8°</b>						
n:	<b>1.3375</b>						

Toric IOL

Target Refraction: **0.00 D**

SIA: **0.00 D**

IL: **98°**

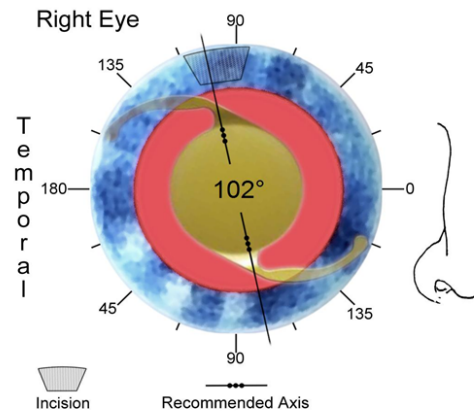
**Toric IOL: HOYA Non Toric  
22.50 D (S.E) 0.00 D @ 102°**

LF = 1.674, A constant = 118.600

Cylinder Power: IOL Plane 0.00 D ~ Corneal Plane 0.00 D

Predicted refraction:

**0.25 D sph. -0.85 D @ 12°**



IOL Power (S.E.)	Refraction (S.E.)	IOL submodel	IOL toricity	Residual astigmatism
21.50 D	0.57 D	n.a.	n.a.	n.a.
22.00 D	0.20 D	n.a.	n.a.	n.a.
<b>22.50 D</b>	<b>-0.17 D</b>	<b>Non Toric</b>	<b>0.00 D</b>	<b>-0.85 D @ 12°</b>
23.00 D	-0.55 D	351 T3	1.50 D	-0.24 D @ 102°
23.50 D	-0.94 D	351 T4	2.25 D	-0.78 D @ 102°



Topcon Europe Medical BV

Patient : TOPCON DEMO  
 Patient ID : TPCDM010150  
 Date Of Birth : 01/01/1950  
(dd/mm/yyyy)

Surgeon : SURGEON GENERIC  
 Exam Date : 10/02/2015 - 17:55  
(dd/mm/yyyy)

**OD**

**OS**

Phakic

Phakic

Data Measurements n : 1.3375

Data Measurements n : 1.3375

Aladdin Optical

Aladdin Optical

AL : 23.73mm K1 : 40.74D @ 8°  
 ACD : 3.14mm K2 : 42.19D @ 98°  
 LT : 4.04mm CYL : -1.45D ax 8°  
 CCT : 0.544mm AvgK : 41.47D  
 WTW : 11.69mm

AL : 23.93mm K1 : 39.64D @ 173°  
 ACD : 3.21mm K2 : 42.71D @ 83°  
 LT : 4.00mm CYL : -3.06D ax 173°  
 CCT : 0.556mm AvgK : 41.17D  
 WTW : 11.98mm

Target Refraction: 0

Target Refraction: 0

Alcon  
AcrySof MA30AC

Alcon  
AcrySof MA30AC

Barrett Universal II	
IOL(D)	REF(D)
21.50	0.64
22.00	0.28
<b>22.50</b>	<b>-0.10</b>
23.00	-0.48
23.50	-0.86

Hoffer Q	
IOL(D)	REF(D)
22.00	0.70
22.50	0.36
<b>23.00</b>	<b>0.01</b>
23.50	-0.34
24.00	-0.69

IOL @ Target LF = 1.726  
22.37 A = 118.700

IOL @ Target pACD = 5.460  
23.02

Alcon  
AcrySof MA30AC

Alcon  
AcrySof MA30AC

SRK/T	
IOL(D)	REF(D)
21.50	0.62
22.00	0.26
<b>22.50</b>	<b>-0.09</b>
23.00	-0.46
23.50	-0.82

Haigis	
IOL(D)	REF(D)
22.00	0.87
22.50	0.52
<b>23.00</b>	<b>0.16</b>
23.50	-0.20
24.00	-0.56

IOL @ Target A = 118.700  
22.37

IOL @ Target A0 = 1.340  
A1 = 0.400  
A2 = 0.100  
23.23

Alcon  
AcrySof MA30AC

Holladay I	
IOL(D)	REF(D)
21.50	0.80
22.00	0.46
<b>22.50</b>	<b>0.11</b>
23.00	-0.24
23.50	-0.60

IOL @ Target SF = 1.640  
22.66

Oculentis  
L-303

Oculentis  
L-313

Barrett Universal II	
IOL(D)	REF(D)
21.00	0.58
21.50	0.20
<b>22.00</b>	<b>-0.18</b>
22.50	-0.56
23.00	-0.95

Barrett Universal II	
IOL(D)	REF(D)
20.50	0.81
21.00	0.43
<b>21.50</b>	<b>0.06</b>
22.00	-0.33
22.50	-0.71

IOL @ Target LF = 1.517  
21.77 A = 118.300

IOL @ Target LF = 1.412  
21.58 A = 118.100

Oculentis  
LS-313 MF30

Oculentis  
LS-313 MF30

Haigis	
IOL(D)	REF(D)
21.50	0.56
22.00	0.19
<b>22.50</b>	<b>-0.18</b>
23.00	-0.55
23.50	-0.93

Barrett Universal II	
IOL(D)	REF(D)
21.00	0.72
21.50	0.35
<b>22.00</b>	<b>-0.03</b>
22.50	-0.40
23.00	-0.79

IOL @ Target A0 = 0.950  
A1 = 0.400  
A2 = 0.100  
22.26

IOL @ Target LF = 1.622  
21.97 A = 118.500

Oculentis  
LS-313 MF30

SRK/T	
IOL(D)	REF(D)
21.00	0.64
21.50	0.28
<b>22.00</b>	<b>-0.08</b>
22.50	-0.45
23.00	-0.82

IOL @ Target A = 118.500  
21.89

Patient : **SAMPLE PATIENT** Surgeon : **Surgeon22**  
 Patient ID : **6lhpw76HuQ** Exam Date : **28/06/2016 - 12:14**  
(dd/mm/yyyy)  
 Date Of Birth : **22/03/1990**  
(dd/mm/yyyy)

**R**

Phakic

Measurements (Aladdin Optical)

K1: **43.46 D** AL: **25.76 mm** LT: **3.34 mm** WTW: **11.74 mm**  
 K2: **44.69 D** ACD: **3.84 mm** CCT: **0.561 mm** WTW Dec **(-0.33,0.00) mm**  
 CYL: **-1.23 D @ 10°**  
 n: **1.3375**

IOL History

Pre Op Keratometry	Implanted IOL data	Post Op Refraction
K1: <b>43.46 D @ 10°</b>	Model: Alcon AcrySof SN6AT5	Sphere: <b>0.50 D</b>
K2: <b>44.69 D @ 100°</b>	LF = 1.988 Aconst = 119.200	Cylinder: <b>-1.00 D @ 10°</b>
	S.E.: <b>13.50 D</b> Toricity: <b>3.00 D @ 100°</b>	

Exchange IOL

Target: **0 D** SIA: **0 D** IL: **0°**

**Rx Exchange IOL: Alcon AcrySof SN6AT7**

**13.50 D (S.E.) 4.50 D @ 100°**

LF = 1.988, A constant = 119.200

Cylinder Power: IOL Plane 4.50 D ~ Corneal Plane 2.91 D

**Predicted refraction:**

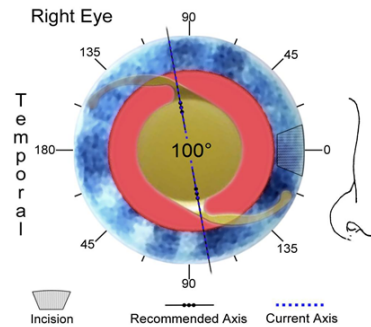
**Predicted refraction: 0.00 D sph. 0.00 D @ 10°**

Existing refractive error: 0.50 D sph. -1.00 D @ 10°

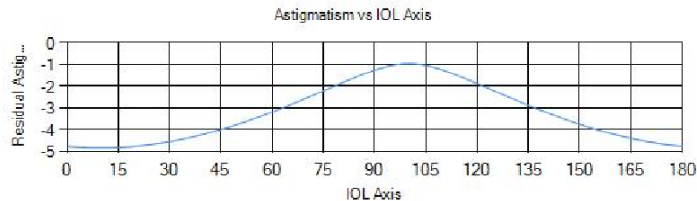
Do not rotate existing IOL (13.50 D (S.E.) 3.00 D @ 100°)

Recommended rotation: 0° anti-clockwise  
 For Minimum Residual Astigmatism = -0.97 D

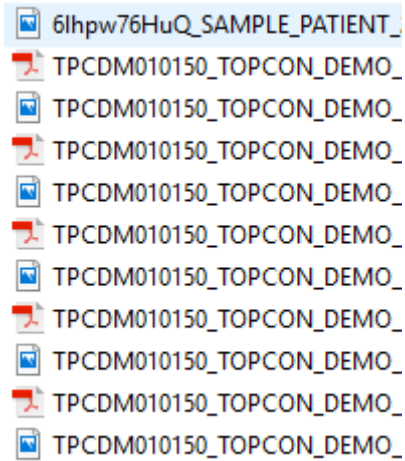
Optimized constants: AConst = 119.300, LF = 2.060  
 Calculated SIA: 0.00 D @ 100°



IOL Power (S.E.)	Refraction (S.E.)	IOL toric submodel	IOL toricity	Residual astigmatism
13.00 (Biconvex)	0.46 D	AcrySof SN6AT6	3.75 D	-0.49 D @ 10°
<b>13.50 (Biconvex)</b>	<b>0.00 D</b>	<b>AcrySof SN6AT7</b>	<b>4.50 D</b>	<b>0.00 D @ 10°</b>
14.00 (Biconvex)	-0.31 D	AcrySof SN6AT8	5.25 D	-0.48 D @ 100°



- **Added the patient ID to filename of reports exported to network folder or USB**



09/02/2017

Arrigucci Marco

Aladdin Product Manager

Visia Imaging S.r.l.