



CUTTING EDGE  
*sense of innovation*



Synthesis<sup>®</sup> (+) Toric  
EDOF Toric Implant

Toric

EDOF

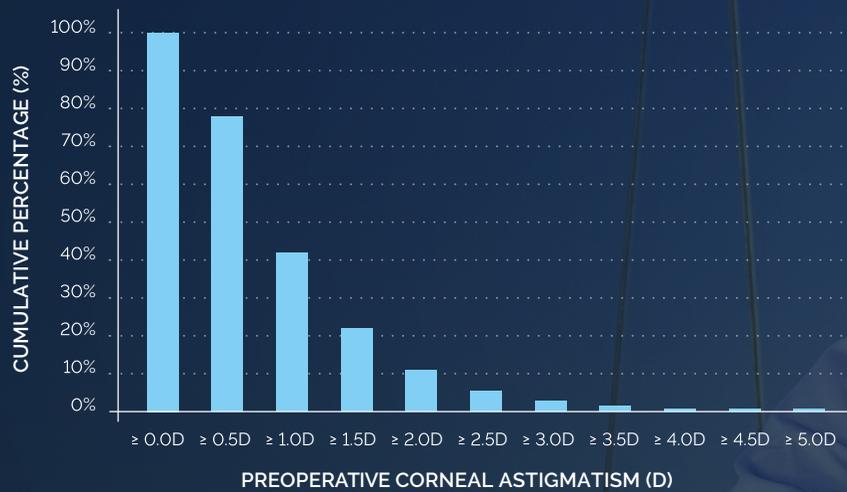


TECHNICAL BROCHURE

# ASTIMAGTISM PATIENT CARE

- Astigmatism needs to be treated to reduce the dependency on glasses for distance vision. <sup>(1)</sup>
- 78 % of the cataract patient population present with corneal astigmatism  $\geq 0,5$  D. <sup>(2)</sup>

Distribution of preoperative astigmatism in patients undergoing cataract surgery (N=110,468) <sup>(2)</sup>



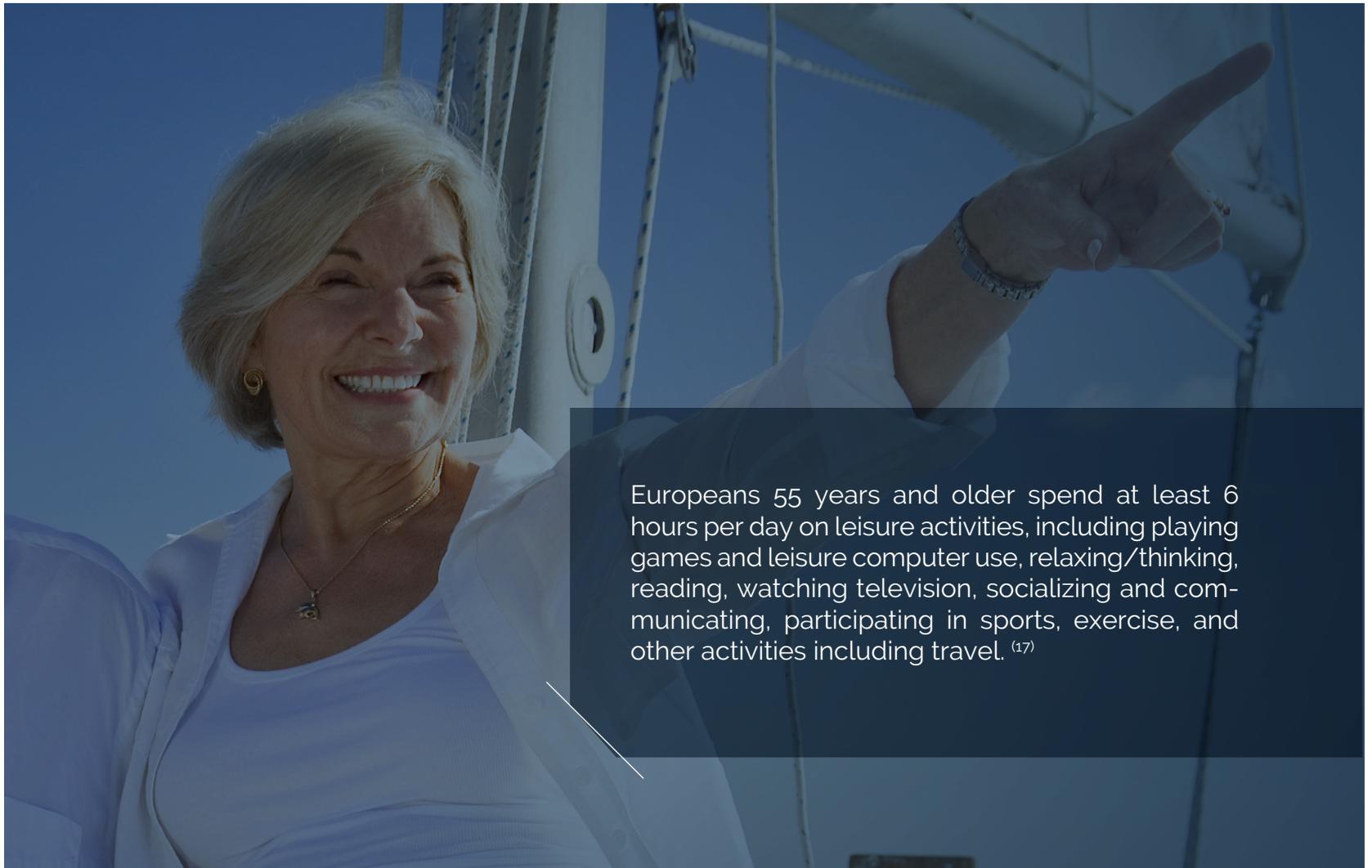
TORIC IOLS CAN OFFER AN EFFECTIVE SOLUTION <sup>(3)</sup>

THE ADOPTION AND USAGE OF TORIC IOLS REMAIN RELATIVELY LOW DEPENDING ON THE COUNTRY, RANGING FROM (4 to 9%) <sup>(4)</sup>

# ENHANCING THE SOCIAL VISION OF YOUR PATIENT

## Daily activities

- Intermediate vision
- Far vision
- Improved near vision <sup>(18)</sup>



Europeans 55 years and older spend at least 6 hours per day on leisure activities, including playing games and leisure computer use, relaxing/thinking, reading, watching television, socializing and communicating, participating in sports, exercise, and other activities including travel. <sup>(17)</sup>



CUTTING EDGE

# MANAGING ASTIGMATISM TORIC

Takes into consideration  
**all sources of astigmatism** <sup>(5)</sup>



Latest generation  
**Calculator**



**MICS**  
Minimizes induced astigmatism <sup>(15)</sup>



**Large combination**  
of Sphere / Cylinder



Can treat corneal astigmatism  
from 0.5D

Clinically proven  
**rotational stability** <sup>(6)</sup>



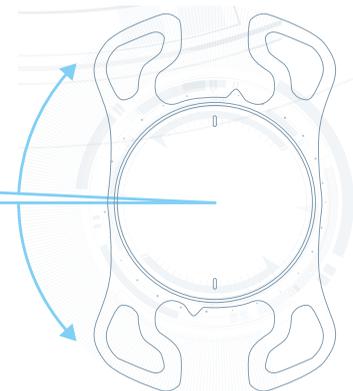
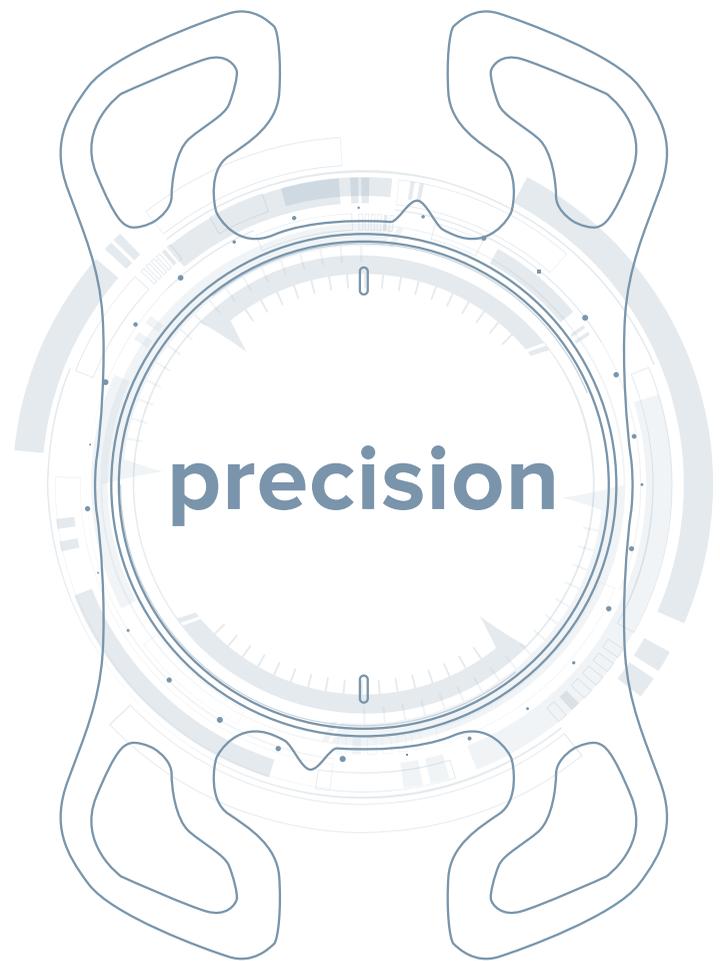
93% of patients with less than 5° rotation from  
surgery day (D0) over a 4 month follow-up period.

**Surgical maneuverability**

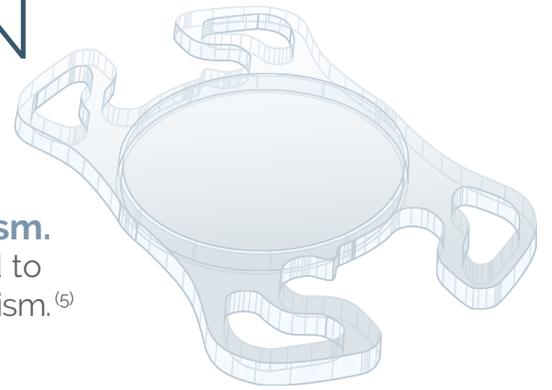
Easy clockwise and anticlockwise positioning



**2,93°** + to **-1,99°**  
Average rotation  
between D0 and 4 months



# NEXT GENERATION ONLINE CALCULATOR



- **Takes into account posterior corneal astigmatism.**  
Ignoring posterior corneal astigmatism may lead to the incorrect estimation of the total corneal astigmatism. <sup>(5)</sup>

**CUTTING EDGE** CUTTING EDGE Toric Calculator English Sign In

**Information**

Surgeon's name\* DUPONT Patient's ID\* XZZ123 Date of birth dd/MM/yyyy Gender  M  F Date of surgery dd/MM/yyyy

IOL Model\* Synthesis Plus Toric Eye\*  OD  OS Include posterior astigmatism\*  Yes  No

Flat K\* 40.0 D Axis\* 180° K Index\* 1.337

Steep K\* 42.0 D Inclusion\* 90°

BIA\* 0.1 D AL\* 23.0 mm ACD 0.0 mm

A-constant\* 118.66 Refractive target\* 0.0 D

Accept and Calculate Clear all

**Expected Results**

Cylinder 1.0 D **Cylinder 1.5 D** Cylinder 2.25 D

IOL power (SE) (D)	SRK/T	IOL orientation	Residual astigmatism
+24.26	0,55	90°	0,25D @ 90°
+24.76	0,18	90°	0,25D @ 90°
+26.26	-0,19	90°	0,25D @ 90°

Recommended IOL:  
Cylinder: 1.5 (Ideal Cyl: 1,84)  
IOL power (SE): 24.75 (IOL emme: 26,00)  
Residual astigmatism: 0,25D @ 90°

Selected IOL: PPLU ST160+24.00  
Cylinder: 1.5  
IOL power (SE): 24.76  
IOL spherical power: 24.0  
Residual astigmatism: 0,25D @ 90°

T OD N

Print E-mail Clear all

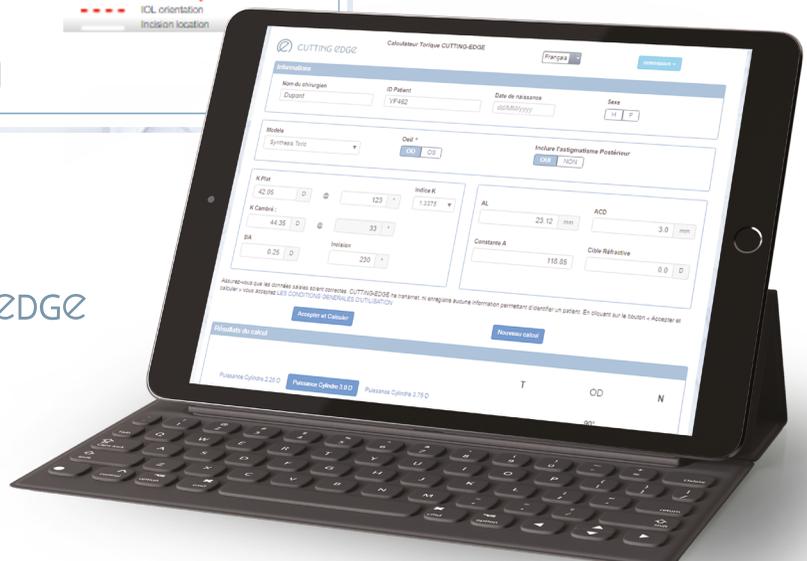
Linear correlation coefficient of Cutting Edge Toric calculator compared to Kane's formula: (19, 20)

SE:  $r^2 = 0.99$   
CYL:  $r^2 = 0.98$   
axis:  $r^2 = 0.99$

[toriccalc.cutting-edge.fr](http://toriccalc.cutting-edge.fr)



CUTTING EDGE



# EDOF A NEW FRONTIER

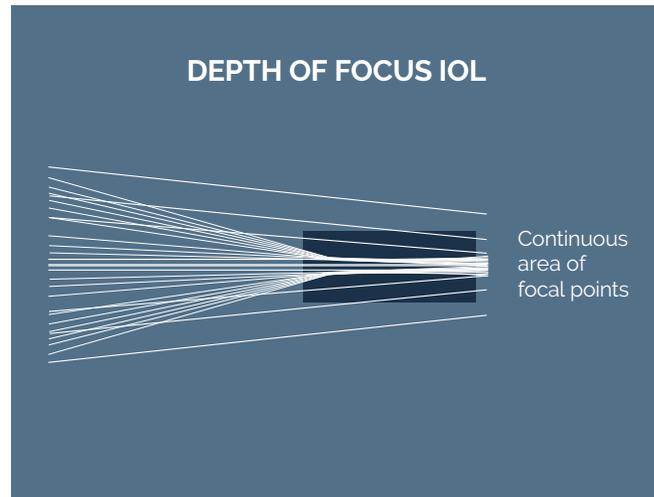
Lens with extended depth of field by pure refractive technology with quality far vision and improved intermediate vision.<sup>(18)</sup>

## ADVANTAGES <sup>(7)</sup>

- Greater contrast sensitivity
- Lower incidence of dysphotopsia

## DISADVANTAGES <sup>(7)</sup>

- Less strong near vision



## RANGE OF VISION



Near Vision



Distance Vision

**ZONE 1**  
30-50 cm



Near vision

**ZONE 2**  
50-90 cm



Near intermediate vision

**ZONE 3**  
90cm - 2m



Intermediate vision indoor activities

**ZONE 4**  
Beyond 2m



Outdoor vision

**ZONE 5**  
Dim condition vision



Night vision

(21, 22, 23, 24)



# OPTICAL QUALITY

## AN INNOVATIVE OPTICAL DESIGN

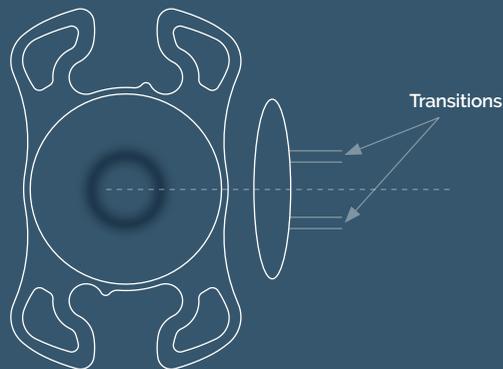
Continuous area with an EDOF central zone, a transition zone and monofocal optical periphery.

**4<sup>th</sup> and 6<sup>th</sup> spherical aberrations of opposite signs permits depth of field increase<sup>(8,9)</sup>.**

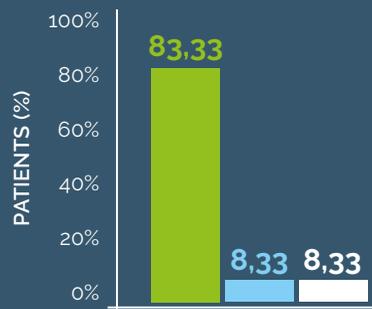


Patented transition zone

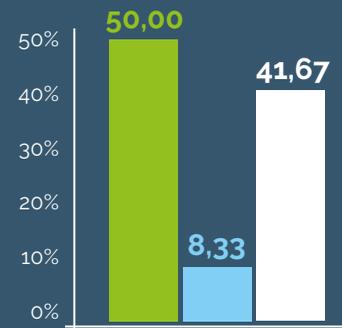
SYNTHESIS® ⊕ RAY TRACING<sup>(10)</sup>



DISTANCE VISION<sup>(12)</sup>  
spectacle independence



NEAR VISION\*<sup>(12)</sup>  
spectacle independence



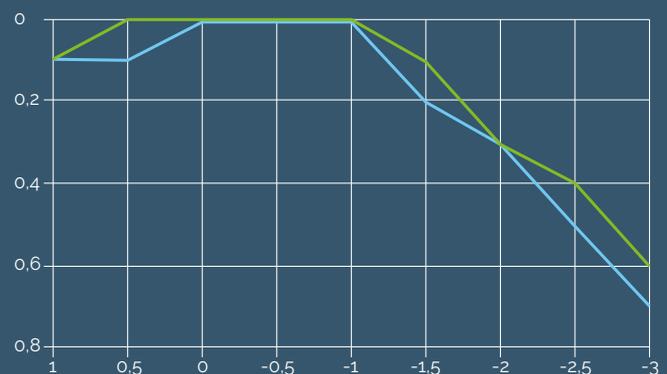
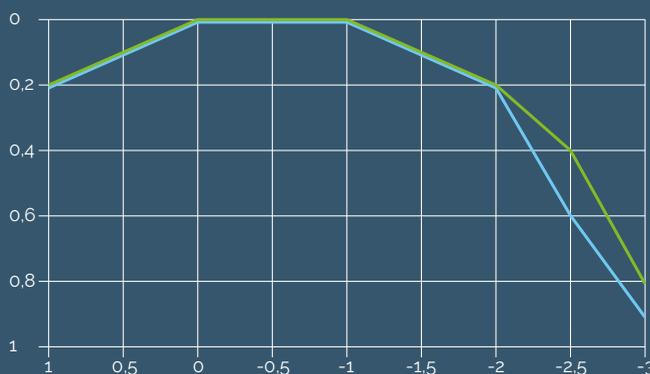
GLASSES : ■ Do not need ■ Sometimes need ■ Always need

\*Prospective data on 12 patients (24 eyes) at 3 months after surgery, without correction with a residual mean spherical equivalent of  $-0.29 \pm -0.32$ D with Synthesis Plus

DEFOCUS CURVE<sup>(11)</sup>

Examples of patients operated bilaterally with Synthesis Plus

— Monocular — Binocular



# SYNTHESIS PLUS TORIC

Innovative lens design empowering social vision  
EDOF & TORIC !

## Spectacle independence <sup>(12)</sup>

50% of people with total independence from glasses

**Patented transition zone**  
minimising photic phenomena <sup>(7)</sup>

## Surgical maneuverability

clockwise and anticlockwise

**Contrast preservation** <sup>(7)</sup>

**Cylinder range**  
to suit most corneal astigmatism

**Clinically proven**  
rotational stability

## MICS

Minimises surgically induced astigmatism <sup>(15)</sup>

**Pre-loaded injection system**

Robust to tilt and decentration <sup>(14)</sup>  
for **potential tolerance to high kappa angles**

Clear material for the preservation of the **melanopsin regulation** <sup>(13)</sup>



OPTIMISATION

# TECHNICAL SHEET



**Synthesis<sup>®</sup> (+)Toric**  
EDOF Toric Implant



INTRAOCCULAR EDOF TORIC LENS  
CLEAR PRELOADED  
Incision MiCs 1,6 mm

REFERENCES	PRELOADED
Clear implant	<b>PPLUST</b>

DESIGNATIONS	SPECIFICATIONS
Optic diameter	6 mm across the power range
Total diameter	11 mm across the power range
Design	4 point-fixation, C-Edge+ $\leq 5$ microns
Optical	Aspheric and toric
Angulation	0°, posterior-shift feature
Dioptric power (Sphere)	1.0D increment between +5.00D to +10.00D 0,5D increment between +10.50D to +30.00D 1.0D increment between +31.00D to +32.00D
Dioptric power (Cylinder)	0,75D/1,0D/1,5D/2,25D/3,0D/3,75D/4,5D/5,25D/6,0D
Biometry available on the IOLcon website <a href="https://iolcon.org">https://iolcon.org</a>	Optical biometry : SRK/T : A = 118,66 Haigis : a0 = 1,107 (with a1 = 0,4 et a2 = 0,1) Hoffer-Q : pACD = 5,336 Holladay 1 : SF = 1,59
Sterilisation	Steam
Packaging	Single pack
Class	IIb
CLADIMED	S50BIO3
Incision size	From 1,6 mm
Calculator	<a href="http://toriccalc.cutting-edge.fr">toriccalc.cutting-edge.fr</a>

This product is guaranteed latex free and phthalates free.

	Brand	Medicel, Accuject <sup>TM</sup> PRO 1.6	
	References	LP604550P (box of 10)	
	Wound-assisted recommended incision	1.6 mm	
	In-the wound recommended incision	1.8 mm	
	In-the-bag recommended incision	2.0 mm	



Synthesis<sup>®</sup>  
Hydrophilic monofocal



Synthesis<sup>®</sup> ⊕  
EDOF





Synthesis<sup>®</sup> ⊕ Toric  
EDOF Toric Implant



Synthesis<sup>®</sup> Toric  
Toric Implant

BEYOND EXPECTATIONS

SENSE OF EXCELLENCE

SENSE OF INNOVATION

SENSE OF PARTNERSHIP

SENSE OF ETHICS



**CUTTING EDGE**  
sense of innovation

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The Synthesis Plus Toric intraocular lens is an implantable Medical Device manufactured and distributed by CUTTING EDGE SAS. This Class IIb Medical Device is a regulated health product that bears the CE mark n° 0197. Synthesis Plus Toric is a monobloc posterior chamber implant in preloaded copolymer, reserved for the use of ophthalmic surgeons for the replacement of the lens in the surgical correction of aphakia. Read the instructions for the device carefully before use. This medical device is covered by public health insurance bodies for its inclusion in the financing of homogeneous groups of patients and stays relating to intraocular interventions on the lens (cataract).

Class IIb and class IIa medical devices - Read the instructions for use carefully.

