

EYEART LABORATORIES

PRECISION CONTACT LENS AND OPTICS MANUFACTURE



SCLERAL CONTACT LENSES



EPSILON SCLERAL

- Outstands due to multi aspheric variable eccentricity design
- Fitted in two steps due to it's novel philosophy and diagnostic set
- Reassures limbal stem cells fuction
- Customisable with toric periphery and front toric



EPSILON SCLERAL: The SCLERAL lens design is fitted on any case of ectatic cornea or any case presenting asymmetric astigmatism. Is the ideal solution for anomalous astigmatism when the rest of the lens designs offered by EYEART do not satisfy the patients expectation or the lids position and tension alter the desired fit.

Points of excellence of EPSILON scleral:

- Ensures functionality of limbal stem cells
- Ensures conjunctival blood vessels flow
- Exceptional multi aspheric design

Available Parameters:

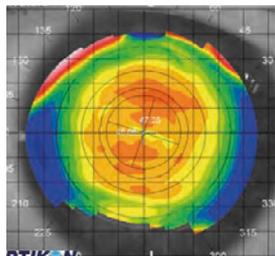
Indications: Keratoconus
Asymmetric astigmatism
Keratoplasty

PMD: Symmetric astigmatism
sensible to rotation

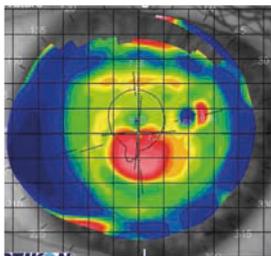
Dry eye management

Saggital Height: 3900 to 6200 microns
Diopters: +25.00 to -35.00 in 0.25 D
Cylinder: up to 3.50 D in 0.25 steps
Axis: 0 - 180 in 1 degree steps
Diameters: 17.00 mm (additional diameters are available)
Geometry: Pentacurve aspheric (**Front toric and scleral zone toric are also available**)
Material: **OPTIMUM EXTRA Dk 100** or BOSTON XO (normal)

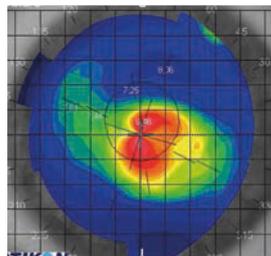
Scleral lens fitting is known to handle any stabilization issues present with corneal lenses. In addition, due to the stability of the materials used, as well as their stable positioning during use, scleral lenses offer the maximum optical performance.



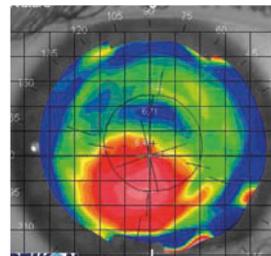
Astigmatism



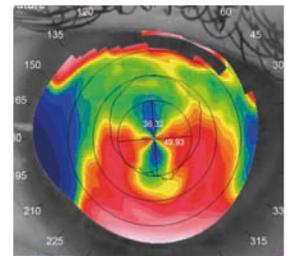
Small area conus



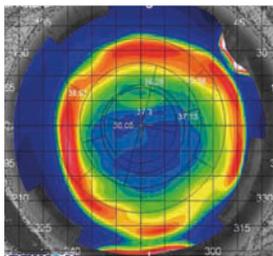
Central conus



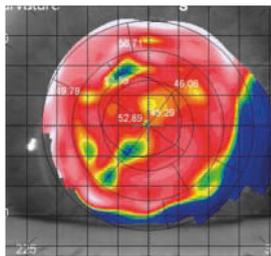
Large area conus



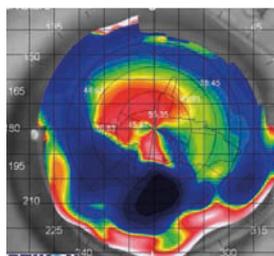
Pellucid marginal degeneration



Post refractive surgery



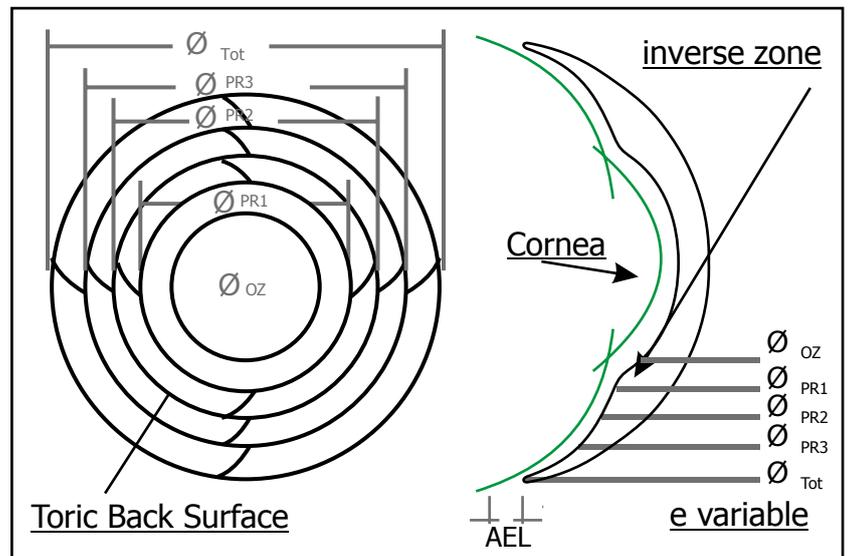
Elevated post graft



Post trauma



Keratoglobus



Multi-aspheric **EPSILON** contact lens designing

EPSILON SCLERAL BASIC FITTING INSTRUCTIONS

FITTING SET CONTENTS:

Consists of 16 lenses, of which 8 of them have a medium (-M) scleral landing zone geometry and the other 8 have a flat (-F) scleral landing zone. Each of the 8 lens group has been named with a letter, starting with A, for the lowest sagittal height lens, and reaching the H for the highest sagittal height lens.

The difference of vault between every two successive lenses/letters is 200 microns.

Therefore the lenses are named with two letters ie A-M or D-F. The first letter indicates the central sagittal height and the second the scleral landing zone geometry.

DIAGNOSTIC SET STRUCTURE:

				KC/POST SURGERY			
NORMAL							
A	B	C	D	E	F	G	H
M	F	M	F	M	F	M	F

FITTING SET STRUCTURE:

STEP 1: The first trial lens is chosen according to the diagram below:

C - M	Normal topography (as in dry eye management) Initial keratoconus Moderate keratoconus of small conical area
D - M	Moderate and advanced keratoconus Non protruding transplant
G - M	Protruded transplanted cornea Keratoglobus

Corneo limbal region evaluation:

FIT ASSESSMENT

STEP 1:
Corneo limbal region
Adjust clearance
using A to H I
ens/letter sagittal
increments

STEP 2:
Scleral zone
Adjust fit M to F



Figure 1
Ideal fluo pattern, as soon as lens inserted.
Iris is seen blurred.

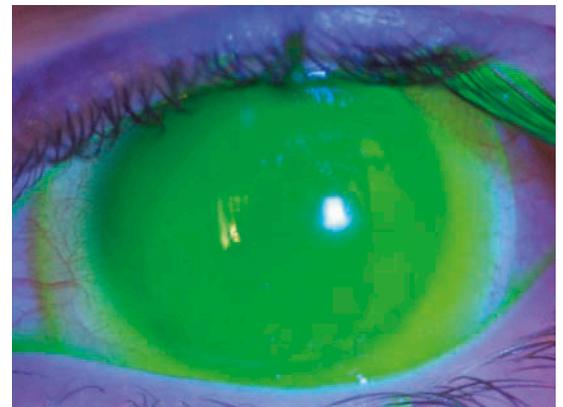


Figure 2
Excessive clearance, change with the previous
letter lens. i.e. If D-M is fitted, change to C-M.
Iris is hardly seen.

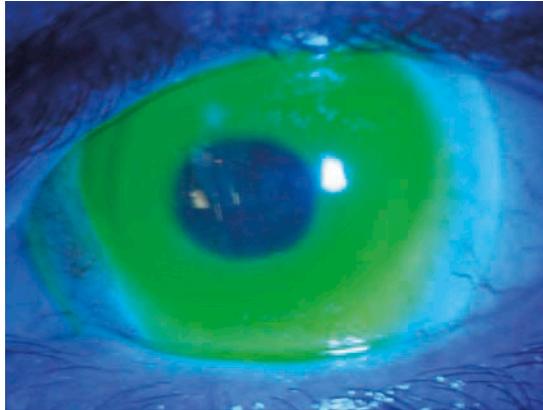


Figure 3
Heavy corneal touch, change with the second more curved lens. i.e.
If C-M is fitted, change to E-M

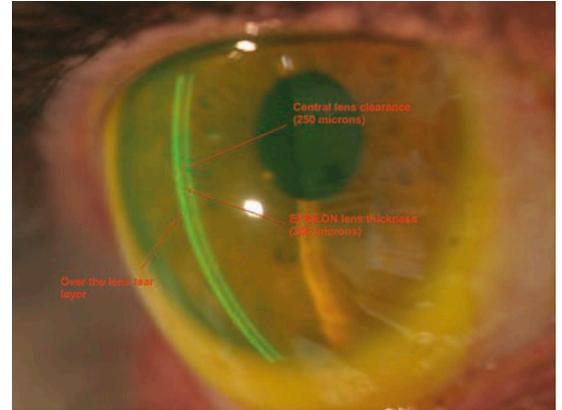


Figure 4
Section clearance evaluation.
EPSILON diagnostic lenses have 350 microns of thickness. Comparing the sections, lens elevation can be estimated

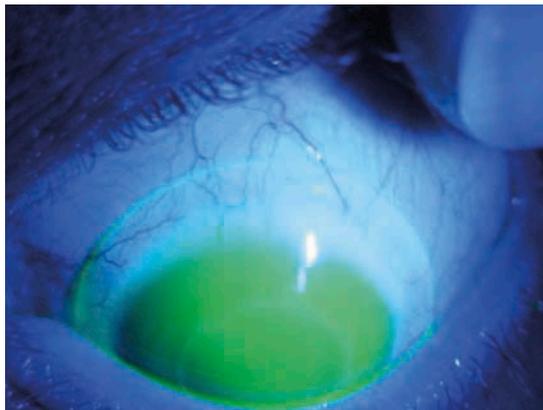


Figure 5
Ideal limbal clearance

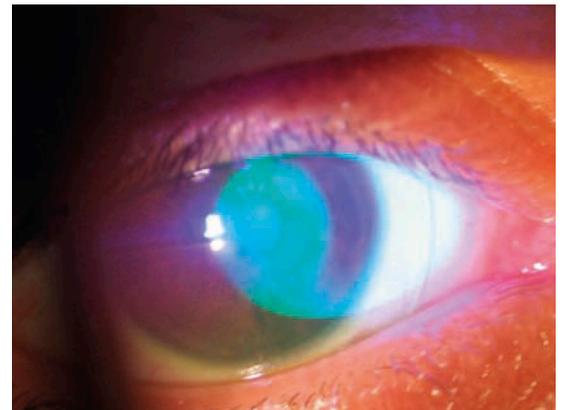


Figure 6
Peripheral and limbal touch.
Rare with EPSILON design

STEP 2: Scleral zone alignment is evaluated:



Figure 7
Ideal scleral zone alignment

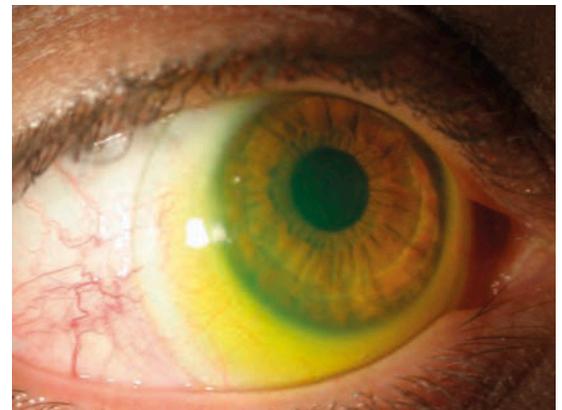


Figure 8
Excessive scleral zone periphery pressure.
Lens with flatter scleral zone has to be fitted

CONFIRMATION: Repeat the above checks after 1-2 hours.

OVER REFRACTION: Perform spherical over refraction
(If vision is not satisfactory, perform spherocylindrical refraction).

LENS ORDER: Order the lens as follows:
i.e. C-M Sph -7.50 D (having calculated the vertex distance of the over refraction and the power of the diagnostic lens).

CUSTOMIZATION:

F.C. (Front cylinder correction): When over refraction yields cylindrical correction, include it in the lens order. The lens will have a dot marking at 6 o'clock position.

Lens order example:

D-F Sph -5.00 Cyl -1.50 Axis 80

T.P. (Toric landing zone option): Toric scleral zone design is also available.

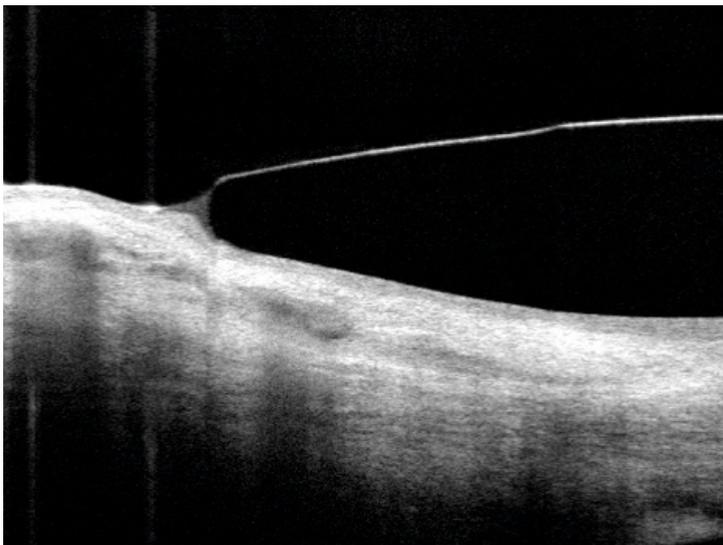
Toricity needed is referred by two parameters: The difference of sagittal height of the two meridians and the 'steepest' meridian.

Amplitude of toricity

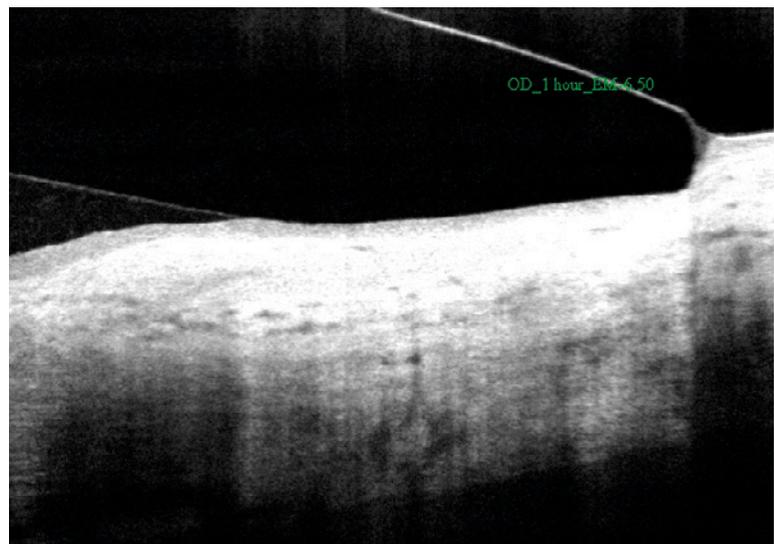
Toric steps are available as follows:

- TP 1 50 microns
- TP 2 100 microns
- TP 3 150 microns
- TP 4 200 microns
- TP 5 250 microns

The amplitude can be easily specified when OCT scans are available or empirically.



Ideal edge landing



TP need 50 microns 'flatter'



Definition of 'steepest' meridian

Definition of the 'steepest meridian'. Default setting sets 'steeper' meridian at 12-6 o'clock .
Further options could be as 7 o'clock, 4 o'clock etc

Order example of an Epsilon lens FC and TP

D - F

Sph -5.00 Cyl -1.50 Axis 115

TP 2 @ 5 o'clock

*You may contact our technical consultants
for further information.

MICROVAULT and NOTCH

Available when needed. Contact EYEART Laboratories
technical consultants for order specifications.



FITTING DETAILS

Key points to be observed:

- Presence of tear film under the whole surface of the lens in the corneal region
- Sufficient tear volume in the corneal limbus region
- Absence of intense imprint in the scleral conjunctiva after lens removal
- Absence of pressure (absence of fluorescein) in the corneal region (meaning a "flat" central region)
- Absence of air bubble in the corneal region (a bubble could mean excessive clearance or mistaken insertion)
- Absence of intense "whitening" in the lens periphery over the sclera (intense "whitening" means steep scleral zone)
- The insertion is performed after the instillation of preservative-free saline at the curved part of the lens
- The contact lens user should be well trained by the practitioner, to handle his Epsilon lenses