

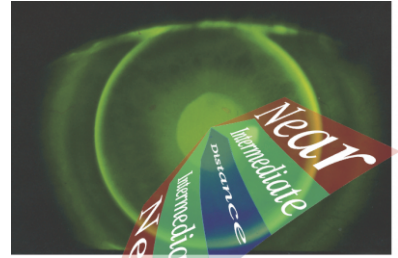
# VFL<sup>3</sup> Variable Focus Corneal Lens

VFL<sup>3</sup> lenses provide an ideal balance of distance, intermediate and near vision. This design provides a progressive range of focal powers enabling the presbyopic eye to selectively focus at any distance within the power range of the VFL<sup>3</sup> optical system. These lenses are not translating bifocals but rather simultaneous multifocals. The lens optical center must be positioned directly in front of the pupil for best results at all distances. These lenses are capable of focusing at any distance from 40cm to 20 feet and beyond. Your patients will be able to focus on near reading tasks, or their computer screen, or an object across the street.

VFL<sup>3</sup> multifocals do not have a single add power, but rather a progressive range of add powers from approximately +0.75 to +2.25. This power range will normally satisfy the add requirements of emerging and moderate presbyopes.



VFL<sup>3</sup> with HD-Optics™ minimizes aberrations and maximizes optical quality resulting in improved visual acuity for your patients. HD-AP™ and HD-CAP™ are our latest front surface developments which target the always present demand for higher add powers.



Simultaneous Vision

## Fitting Procedure:

The back surface of the VFL<sup>3</sup> lens is flattening very rapidly from the apex to edge. This flattening produces the progressive add effect. It also substantially alters the sagittal depth/lens-to-cornea fitting relationship. In order to offset this rapid flattening, the apical radius (base curve at its steepest point) must be fit steeper than the flattest meridian.

### 1. "K"s and Refraction:

#### Transposition:

Add SPH and CYL Algebraically  
(This is the new SPH power)

Change the sign of the cylinder  
The (+) becomes a (-)

The Axis changes by 90 degrees  
If the axis is <90 then add 90 to existing axis.  
If the axis is >90 then subtract from the existing axis

OD/OS: \_\_\_\_\_ @ \_\_\_\_\_ / \_\_\_\_\_ @ \_\_\_\_\_ Pupil: \_\_\_\_\_  
Flat K1 Steep K2 (Normal Room Light)

SPHERE: \_\_\_\_\_ CYLINDER: \_\_\_\_\_ AXIS: \_\_\_\_\_ VERTEX: \_\_\_\_\_ ADD: \_\_\_\_\_  
Transpose if not in (-) cylinder form\*

New SPHERE: \_\_\_\_\_ CYLINDER: \_\_\_\_\_ AXIS: \_\_\_\_\_ VERTEX: \_\_\_\_\_ ADD: \_\_\_\_\_

Find Corneal Astigmatism (CA): CA = Steep K2 - Flat K1 \_\_\_\_\_

Find Residual Astigmatism (RA): RA = CA + (Cylinder) \_\_\_\_\_

Panofocal™ or Front Toric design may be required with (RA) above 1.00D

### 2. Select Diameter:

Base Curve Range: 6.70 - 7.15 Diameter: 9.2  
7.20 - 8.00 9.4

The average lens size of a VFL3 is 9.4mm. This diameter will perform well on the average cornea. Smaller or larger diameters may be required based on the particulars of each individual patient.

### 3. Base Curve Computation:

Fitting Factor: Use the calculated Corneal Astigmatism (CA) to determine the Base Curve (BC):

Corneal Astigmatism (CA) Fitting Factor Use Diopter Conversion Chart for Radius

0.00 - 0.75 BC = Flat K \_\_\_\_\_ D + 2.75 = \_\_\_\_\_ D

0.87 - 1.62 BC = Flat K \_\_\_\_\_ D + 2.75 = \_\_\_\_\_ D

1.75 - 2.00 BC = Flat K \_\_\_\_\_ D + 3.00 = \_\_\_\_\_ D

>2.00 Custom Use Diopters to calculate BC Radius

### 4. Power Computation:

- Vertex if the SPHERE power is > +4.75 or < -5.00
- Power = (Sphere or Vertexed Sphere Power) + Tear Lens Compensation

Corneal Astigmatism (CA) Tear Lens Compensation

0.00 - 0.75 -2.50

0.87 - 1.62 -2.50

1.75 - 2.00 -2.75

> 2.00 Custom

( \_\_\_\_\_ ) + ( \_\_\_\_\_ ) = \_\_\_\_\_ Final Power  
(Power) (Tear Lens Comp.) Add (-) TLC to Power

#### Final Lens Prescription



### 5. Peripheral Curve Selection:

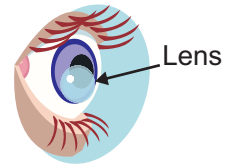
- HPC .65 / .6 is standard for VFL3.
- CA greater than 1.75D should consider the use of a Toric PC for improved centration.

HPC .45 To Tighten  
HPC .55  
HPC .65 Standard  
HPC .75  
HPC .85 To Loosen

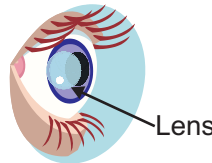
	Base Curve	Peripheral Curve	Back Vertex <input type="checkbox"/>	Power	Front Vertex <input type="checkbox"/>	Lens Size
OD		HPC .65				
OS		HPC .65				

**Lens Position:****Superior Position****High Riding VFL3**

Cause	Corrective Action
Flat Base Curve	Verify with fluorescein Steepen base curve .10mm
Thick minus edge	Lenticular plus carrier or C/N
Large diameter Narrow aperture	Reduce diameter 0.4mm
Corneal Topography Steep base curve	Add 1.0 prism BD Flatten base curve .10mm

**Lens Position:****Inferior Position****Low Riding VFL3**

Cause	Corrective Action
Steep Base Curve	Verify with fluorescein Flatten base curve .10mm
Center thickness	Lenticular minus carrier
Small diameter	Increase diameter 0.4mm
Flat base curve	Verify with fluorescein Steepen base curve .10mm

**Lens Position:****Lateral / Medial Position****Nasal / Temporal Decentration**

Cause	Corrective Action
A/R astigmatism	Steepen base curve .10mm Increase diameter 0.4mm Toric PC
Narrow aperture	Reduce diameter 0.4mm Steepen base curve .10mm

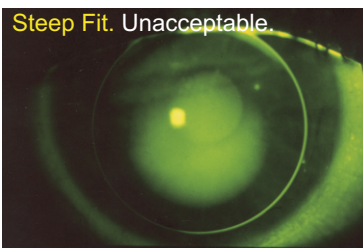
**Lens Position:****Oblique Position****Down and In/Out**

Cause	Corrective Action
Oblique astigmatism	Steepen base curve .10mm Increase diameter 0.4mm Toric PC

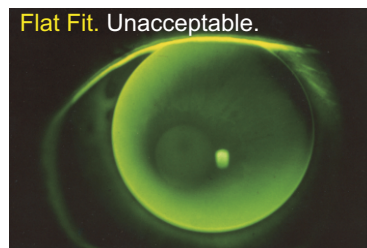
Parameter Change Effect	To Tighten Fit	To Loosen Fit
Base Curve	Steeper	Flatter
Diameter	Larger	Smaller
Optic Zone	Larger	Smaller
Peripheral Curve	Steeper	Flatter
Blends	Light	Heavy
Center Thickness	Thin	Thick
Edge Thickness	Thin	Thick

**VFL3 Trial Lens Evaluation**

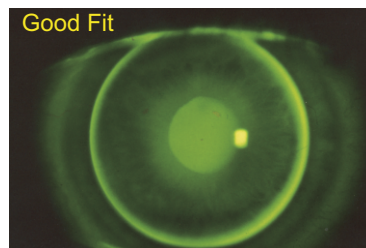
Place VFL3 trial lens on both eyes. Check centration with penlite. VFL3 lenses should center well over pupil. Poorly centered lenses will lead to poor visual results at all distances. Alter base curves to achieve proper centration. Base curve changes of 0.50 diopter are required to significantly change lens position and movement. Usually, steepening the base curve by 0.50 diopter will reduce lens movement and improve centration. If you cannot achieve lens centration with a base curve change, a diameter or peripheral curve change may be required. After centration of both lenses is achieved, check fluorescein patterns. Apical clearance, intermediate alignment and a mild band or progressive peripheral edge lift describes the desired dye pattern.

**Steep Fit. Unacceptable.**

- Pronounces central pooling.
- Harsh intermediate bearing.
- Inadequate peripheral clearance.
- Flatter base curve indicated.

**Superior.**

- Thin pattern over pupil due to decentration.
- Excessive peripheral clearance (stand-off).
- Steeper base curve indicated.

**Well centered**

- Slight central pool.
- Uniform mid-peripheral alignment.



To place an order:

Toll Free  
**1-800-426-1700**

Fax  
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email: [info@conforma.com](mailto:info@conforma.com)

**Conforma Contact Lenses**  
4705 Colley Ave. - Norflok, VA 23508

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