

Introducing NovaKone™: A Breakthrough Soft Contact Lens For Keratoconus.

If you're looking for a new approach to keratoconus that offers the comfort of a soft lens; custom parameters, including cylinder correction to -10.00D; and the kind of straightforward fitting not found in hybrids, Alden Optical's new NovaKone™ soft lens for keratoconus is it. While NovaKone lenses can be a viable solution for all stages of keratoconus, they're especially effective for patients with more advanced conditions, those who have failed to tolerate GPs, or who have been unsuccessful with hybrid and scleral lenses.

This remarkable new lens offers you and your patients:

- **A higher level of comfort than most GP or hybrid lenses can deliver**
- **Excellent visual outcomes**
- **A straightforward fitting approach**
- **The option of quarterly replacement**

Designed For Success

NovaKone is designed specifically for the keratoconic eye, with advanced design features and flexible parameters that give you incredibly precise fitting control.

- A central base curve optimized for precise optical alignment over the steep central cornea
- Variable lens center thickness (IT Factor) to neutralize almost any irregular astigmatism
- Our proprietary Dual Elliptical Stabilization™ and cylinder powers to -10.00D to precisely address residual astigmatism
- An independent para-central fitting curve to assure excellent lens movement and physical fit

Indications

- NovaKone soft lenses for keratoconus are indicated for visual correction for patients with all stages of keratoconus and pellucid marginal degeneration.
- NovaKone can be particularly successful to address cases where GP, hybrid, and scleral lenses have failed or are otherwise contraindicated.
- NovaKone offers extraordinary comfort and can be an excellent adjunct to other forms of correction.



ALDEN
OPTICAL

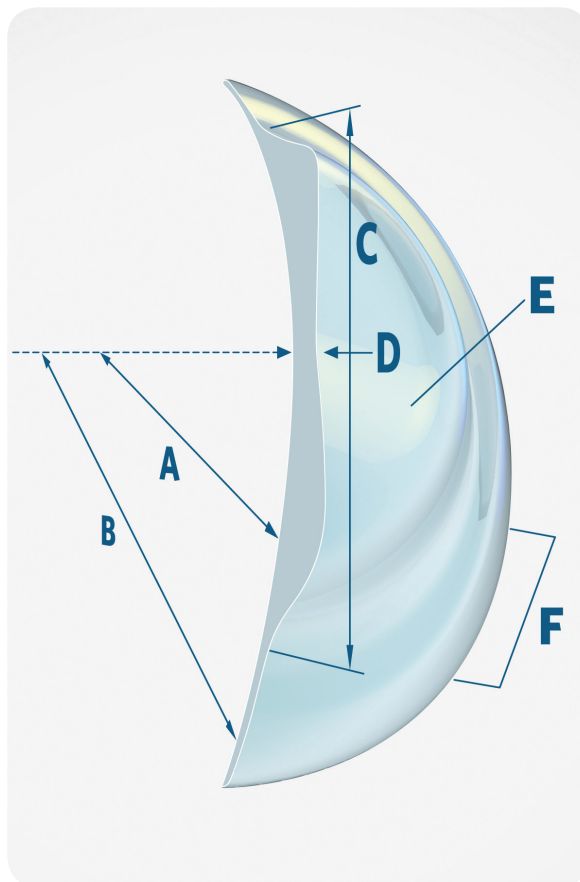


NovaKone Lens Cross-Section

The posterior surface of the lens **(A)** includes a steep **central base curve** which is intended to match the average central K reading of the keratoconic eye.

The **fitting curve (B)** is similar in design to the base curve of a standard soft lens and is intended to ensure good lens movement and fit.

The anterior surface has an aspheric central optical section **(C)** to correct spherical aberration and a thinner lenticular flange to maximize oxygen permeability.



The IT (Index of Thickness) Factor describes the central thickness of the lens **(D)** and effectively manages differing levels of corneal irregularity.

Residual astigmatism up to -10.00D is corrected by front surface cylinder optics. **(E)**

Dual Elliptical Stabilization™ **(F)** is employed to ensure excellent orientation and rotational stability.

Parameters

Material	Benz G4X 54%, Hioxifilcon D
Diameter	15.0 as standard, others available in 0.1mm steps
Base Curve (central)	5.4, 5.8, 6.2, 6.6, 7.0, 7.4, 7.8, 8.2, 8.6 as standard, others available in 0.1mm steps
Fitting Curve (para-central)	8.2, 8.4, 8.6 as standard, others available in 0.1mm steps
Sphere Power	+30.00 to -30.00 in 0.25D steps
Cylinder Power	Up to -10.00 in 0.25D steps
Axis	1° to 180° in 1° steps
IT Factor* (Index of Thickness)	0 (0.35mm CT), 1, 2, 3, 4 (ea. 0.10mm increased CT)

*IT Factor is used to increase the lens thickness to address varying levels of irregularity.



Diagnostic Set

All Dx lenses feature Dual Elliptical Stabilization (with diagnostic marks and without cylinder power). Price: \$450

PREMIUM 18-LENS DIAGNOSTIC SET

BASE CURVE	FITTING CURVE	SPHERE POWER	IT FACTOR
8.6	8.6	-4.00	0, 1, & 2
8.2	8.6	-5.00	0, 1, & 2
7.8	8.4	-6.00	0, 1, & 2
7.4	8.4	-7.00	1, 2, & 3
7.0	8.2	-8.00	1, 2, & 3
6.6	8.2	-9.00	1, 2, & 3



Fitting Guide

When fitting a keratoconic eye with NovaKone, the goal is to fit the central affected cornea optically using the base curve, and to fit as much “normal” peripheral cornea and sclera as possible with the fitting curve—similar to the way in which a standard soft lens is fit. The fitter must determine any necessary fitting curve refinement by observing the final diagnostic lens; only one fitting curve per base curve is provided in the diagnostic set.

The use of diagnostic lenses is imperative. By following the fitting guidance provided and utilizing the NovaKone 18 Lens Diagnostic Set, you will be able to select the proper base curve and IT Factor, assess physical fit, perform an over-refraction, and order the Rx lens.

Step 1: Determining the Central Base Curve (Optical System)

- The alignment of the central base curve will have a significant impact on the quality of the optical system and should therefore be confirmed using optical methods. The base curve should not be adjusted to optimize physical fit and alignment—rather adjust the fitting curve as described below.
- Use the fitting chart below to select the base curve radius of the initial diagnostic lens based on the average central K-readings from keratometry or central 3mm sim-Ks from topography.

AVERAGE CENTRAL K	BASE CURVE
41.00 to 42.99	8.6
43.00 to 46.99	8.2
47.00 to 49.99	7.8
50.00 to 52.99	7.4
53.00 to 55.99	7.0
56.00 to 58.99	6.6
59.00 to 61.99 [†]	6.2
62.00 to 64.99 [†]	5.8
65.00 to 67.99 [†]	5.4

[†]Not in diagnostic set

- Verify optical alignment with central cornea using slit lamp or high molecular weight fluorescein.
 1. Ideal central base curve alignment will yield a thin tear film with light central touch
 2. Refer to the troubleshooting section for guidance on poor central base curve alignment

Step 2: Determining the IT Factor

If any irregularities are observed when assessing the optical characteristics of the best fit diagnostic lens, increasing the IT Factor will improve optical stability. Evaluate keratometric mires or topography over the lowest IT diagnostic lens. Increase IT Factor until mires are crisp (see troubleshooting section for more guidance on IT selection).

Step 3: Calculating Final Lens Power

- Perform a refraction over final diagnostic lens.
 - Dx lenses have no actual cylinder power
- Compensate for any observed rotation.
 - All Dx lenses have Dual Elliptical Stabilization to assess rotation and orientation marks at 3 and 9 o'clock

Step 4: Determining the Fitting Curve (Fitting System)

- Using a slit lamp, the fitter should make an assessment of the fit.
- The fitting curve should demonstrate typical fitting characteristics of a standard soft lens fit.
- Ideal physical fit will result in 0.5 to 1.0mm of movement on blink.
- Refer to the troubleshooting section when lens movement is not ideal.

Step 5: Ordering the Prescription Lens

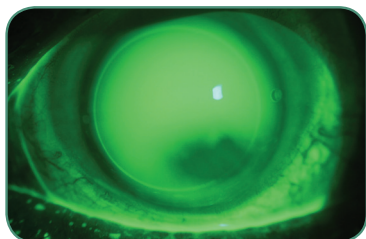
Perform an over-refraction and compensate for vertex distance and rotation, if necessary.

Combine the over-refraction with the power of the diagnostic lens to determine the final Rx. Specify base curve, IT Factor, and fitting curve (from step 4) with any required adjustments.



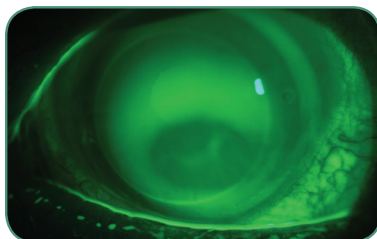
Troubleshooting Guidance

STEEP



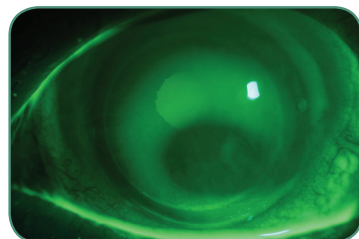
Excessive tears (pooling).

ACCEPTABLE

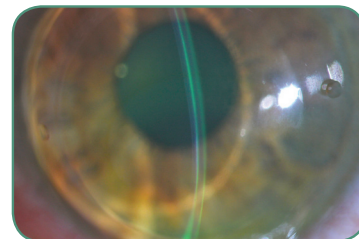
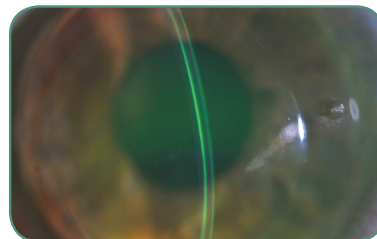
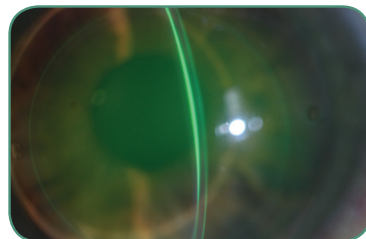


Adequate tears with light inferior touch.

FLAT



Lack of tears over cone.



OBSERVATION	SOLUTION
Excessive central touch	Evaluate next steeper base curve Dx lens
Fluctuating mires	Reassess central base curve
Excessive pooling	Evaluate next flatter base curve Dx lens
Stable but poor mires	Increase to the next higher IT Factor
Poor acuity/crisp mires	Reassess base curve
Poor acuity/poor mires	Increase IT Factor
No lens movement and/or impingement	Flatten fit curve 0.2mm in Rx lens
Excessive lens movement and/or edge lift	Steepen fit curve 0.2mm in Rx lens

Fitting Tips

1. The base curve provides optical alignment and should not be adjusted to optimize the physical fit of the lens.
2. Cease GP lens wear for at least 1 week prior to fitting NovaKone.
3. Consider fitting one eye at a time in situations where cessation of the habitual correction method (e.g., GPs) is not practical.
4. The more central the cone, the lower the IT Factor typically required.
5. Conversely, the more decentered the cone, the higher the IT Factor typically required.
6. Changing IT Factor or base curve in the Rx lens usually alters the optics and generally requires an additional over-refraction. Use caution when ordering IT Factors other than observed via diagnostic fitting.
7. A very effective over-refraction can often be obtained by using an auto refractor.
8. Retinoscopy can provide an assessment of optical quality and central base curve alignment. It can also be an alternative to conventional refraction when patient subjectivity is a concern.
9. In the rare case where NovaKone does not provide adequate final visual acuity, consider using NovaKone as an adjunct approach to provide wearers with relief from their primary modality.
10. NovaKone is designed with a standard 15.0mm diameter to ensure excellent rotational stability. Patients with HVID smaller than 11.0mm or larger than 13.0mm may require a different lens diameter. Add 3.0mm to HVID to determine custom NovaKone diameters.

