



## *DRL Dubbel Reservoir (contact)Lens*

*An addition to  
Ortho-K night  
lenses due to the  
double reservoir  
principle*

### WELCOME ADDITION

DRL contact lenses are a welcome addition to the existing Ortho-K night lenses due to the double reservoir principle. This system has a simplified fitting technique, making the result logical and predictable for the contact lens specialist. The DRL contact lens is a patented design that improves centering and allows for more control of the end result due to the fluorescein pattern.

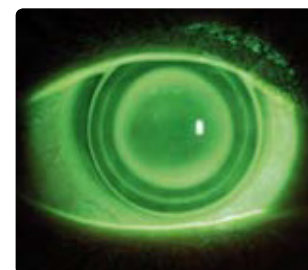
One of the main obstacles with Ortho-K lenses is the need for great craftsmanship. Because the contact lens error in sagittal height should not exceed five micrometers, this gives undesirable corneal distortion such as decentration with a too flat adjustment, with a too deep , adjustment it will result in a poor visual result.



**UCO**  
CONTACTLENZEN  
HOLLANDS AMBACHT

## Parameters

<b>BCR</b>	5.00 - 12.00 per 0.10 ascending
<b>POWER</b>	+1.00 (standard)
<b>LENS DIAMETER</b>	8.00 - 12.60 per 0.10 ascending
<b>MYOPIA CORRECTION</b>	-0.25 to -8.00 per 0.25 ascending
<b>CYLINDER</b>	up to -10.00 per 0.25 ascending



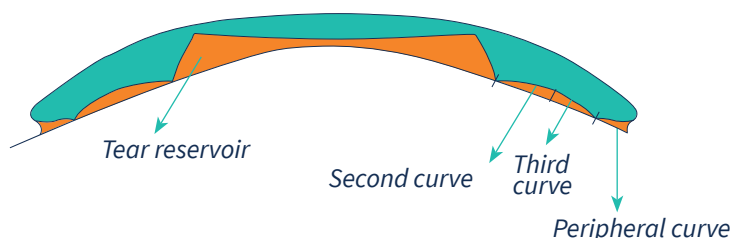
The worst situation is when corneal astigmatism stands in the way of a good result. If the corneal sagittal height is not the same in the two axis directions, this will result in an unsatisfactory adjustment, as well as a poor spherical correction. Moreover, the nature of the ametropia of the area to be treated is limited by the current technique. DRL is the only truly comprehensive Ortho-K system for the treatment of astigmatism, hyperopia and residual Post-Lasik refractive errors.

DRL lenses are measured by topography and additional information obtained from the trialset lenses. Compared to other Ortho-K systems, this design gives direct control over the fluorescein image. All this information is used to achieve an exact fit and a predictably good result in a short period of time.

The result is accelerated by the hydro dynamic forces produced by the double reservoir design.

## INNOVATIVE DESIGN

**All current Ortho-K lenses are based on peripheral curve designs with spherical, elliptical or flat curves, with the aim of an alignment fit. What is different about the DRL contact lens: this contact lens has its own characteristic feature. When the contact lens is on the eye, the a second peripheral ring is formed by accumulation. The creation of these two pooling rings is due to the parti internal profile of the loan.**



When the fluorescein is applied to the eye, we see a second bright green ring next to the central ring shape. This specific profile of the DRL lenses offers more tolerance in the fitting of contact lenses. This is due to the lens construction which allows the corneal epithelium to be easily distributed below the surface of the contact lens.

Because the visible maximum thickness of fluorescein is 20 microns, DRL lenses provide a clear fluorine image for control. The comparison of the two areas accurately reflects the fit of the contact lens in the periphery: well-fitting, steep or too flat.

### HYDRO DYNAMIC SUCTION FORCES

DRL contact lenses provide hydro dynamic suction forces, which reinforce the correction in the center of the contact lens. At the same time, the standard large optical zone allows for a large area to be treated, especially with low or medium myopia.

**ALMOST NO RESTRICTIONS**

- Myopia: to -5.00 and in some cases to -8.00.
- Astigmatism: to -3.50.
- Post-refractive surgery.
- Reduce myopia progression

**AVAILABLE PARAMETERS**

- Material: Boston XO and XO2
- B.C.R. per 0.05
- Power per 0.25 dpt (standard +1.00)
- Diameters 10.20 to 11.20 per 0.20 (10.80 standard)

**SOFTWARE AND TECHNICAL SUPPORT**

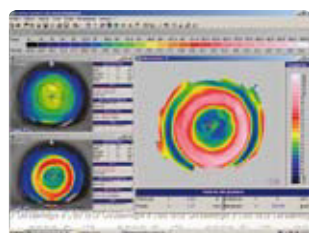
**DRL lenses are calculated according to the corneal Sagitta and assessed on the fluorescein pattern from a trialset. All trialset lenses are calculated for a normal cornea with an average eccentricity of 0.48. The first contact lens is calculated by the average central K-value.**

**DIAGNOSTIC PASS**

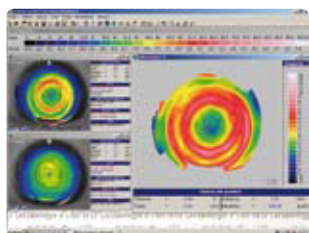
The trialset consists of 24 lenses. The sagittal change between lenses is about 10 microns. These lenses are designed to reduce the myopia by two Dpt. The trialset offers the possibility to directly give lenses for a night session in the right curvature value. If a change is required during the follow-up check, it can be made directly from the trialset. The myopia value is of secondary importance.

**FLUORESCEIN AND TOPOGRAPHY CONTROL**

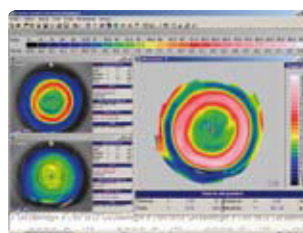
Because the thickness of the tear film in the second reservoir is about 20 microns, it will only be visible when the contact lens is adjusted correctly or too flat... The intensity of the first and second ring supports the indication of a flat or steep fit, if the fluorescein pattern shows a more pronounced support along the second ring, it will correspond to a deep contact lens. Conversely, a more intense touch of the first ring indicates a too flat fit.



Flatpasvorm



Steep fit



Optimum fit



*Perfect contact lens*



*Flat contact lens*



*Steep contact lens*

## PERFECT CONTACT LENS

- The contact lens must be properly centered. There must be no asymmetry in the tear reservoir.
- The central area should cover well over the pupil, with a light green tint, which is a sign of a nice thin tear layer.
- There must be no air bubbles in the central area.
- The first touch ring is located at the end of the first reservoir.
- The second reservoir is lighter than the first and the line is barely visible.
- The second touch ring must be equal in width and depth to the first.
- The edge lift must be uniform on all sides. Compare the opposite areas along the same axis.

## FLAT CONTACT LENS

The tear film flows under the outer curves, especially if there is no support at the end of the last curve and is usually peripheral.

in the lower part. A flat contact lens has a lack of support and will be dislodged due to the pressure of the eyelid.

## DEEP CONTACT LENS

If an excessively deep contact lens is used, there will be an extremely defined optical zone and the first “black” ring will be weaker than the second or non-existent. There will also be a small central diameter and there will be no tear film flow. This will lead to a sucking effect so that the contact lens is too tight and closes. The contact lens is usually well centered. The axial edge lift is very small or non-existent. Usually this generates a small optical zone, which can be seen in the topography.

## MYOPIA REDUCTION CONTROL

Our distinguishing factor is that this refraction system is based on the fact that all lenses have the same corneal Sagitta height with an 8 micron tear film thickness. So all lenses with the same “K” value will fit perfectly with the same corneal height without any need to make recalculations, because the manufacturer calculates the parameters.

**EXAMPLE 1**

K 7.80 M 2 has the same Sagitta as the K 7.80 M 4. However, due to an adjusted first reversed curve, a higher myopia will occur with a constant sagittal height. If another refraction correction is required, then the specialist only has to add the remaining refractive value on top of the 2 Dpt fitting lens.

**EXAMPLE 2**

If we fit a contact lens K 7.80 M 2, an optimal contact lens for a 7.80 mm cornea and where we still have to correct the Dpt with -1.00 so that the total myopia correction is -3.00 D, an M3 contact lens will be needed (K 7.80 M 3).  $K = \text{keratometry} / 7,80 = \text{cornea radius} / M = \text{myopia} / 3 = \text{diopters myopia correction}$

The degree of corrective power depends on:

- The cornea flexibility and eccentricity
- Cornea diameter and K-value
- The diopter correction to be achieved and the duration of use.

It is necessary to determine the result after 1 week with the first (trial) contact lens in order to order the correct final contact lens with this information. This will ensure that the lenses work properly. Even if you have a contact lens must change due to necessary corrections, it can be used for future fittings.

**FLEXIBLE PARAMETERS**

Using the concept (contact lenses with the same Sagitta), the specialist can switch easily between the different parameters.

**Troubleshooting:**

- 1.No or too little correction: diameter too large
- 2.No or too little edgelifit: diameter too large
- 3.Smiley: steepen the BCR 0.05.
4. Central Island: flatten the BCR 0.05.

