

# *DiffRACTIVA*<sup>®</sup>



Enhanced Reading Comfort

  
HumanOPTICS

The logo for HumanOPTICS features a stylized sunburst or fan shape above the text. The sunburst is composed of several triangular segments in shades of blue, green, and yellow. The text "HumanOPTICS" is in a clean, sans-serif font, with "Human" in a dark blue and "OPTICS" in a lighter blue.

# DiffRACTIVA - Smart design from optic to haptic

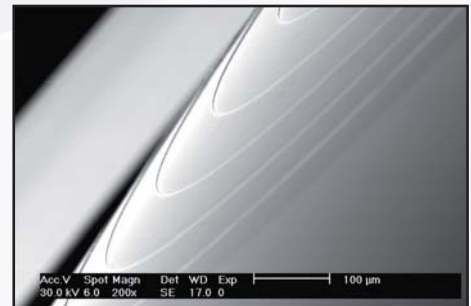
## Near addition of +3,5 D (at IOL plane)

Enhanced reading comfort in ergonomic reading distance.

## Special aspheric design

- ▶ reduction of spherical aberrations to improve functional vision
- ▶ ensures sufficient depth of focus to support intermediate vision

**Picture:** SEM-photography of the precise, diffractive surface



## Mixture of monofocal and diffractive design

Different to multifocal IOLs with full diffractive zone, the ring structure of the *DiffRACTIVA* is focalized in the inner, central region.

The big monofocal part in the periphery of the lens offers excellent optical properties practically without limitations. Drawbacks linked to other diffractive principles (i.e. glare and halos) are reduced to a minimum.

## Excellent PCO-behaviour

The 360° sharp optic edge provides excellent PCO-behaviour.

[ e.g. see: Sacu S, Menapace R et. al. Long-Term Efficacy of Adding a Sharp Posterior Optic Edge to a Three-Piece Silicone Intraocular Lens on Capsule Opacification: Five-Year Results of a Randomized Study. American Journal of Ophthalmology 2005; 139(4):696-703]

## „Oval cross-section haptics“

Achieving best performance with multifocal IOLs requires a concentric positioning of the ring structure aligned to the pupil (ideally: the optical axis).

The special “oval cross-section haptics” of the *DiffRACTIVA* spread the physiologic forces omni-directional and therefore ensure predictable centration.

**Picture:** High axial stability combined with radial flexibility provide high refraction stability





## „Far vision accentuated diffractive lens“

The surface of the optic is optimized to enable an energy shift of the light between both focal points depending on pupil diameter.

### Far vision

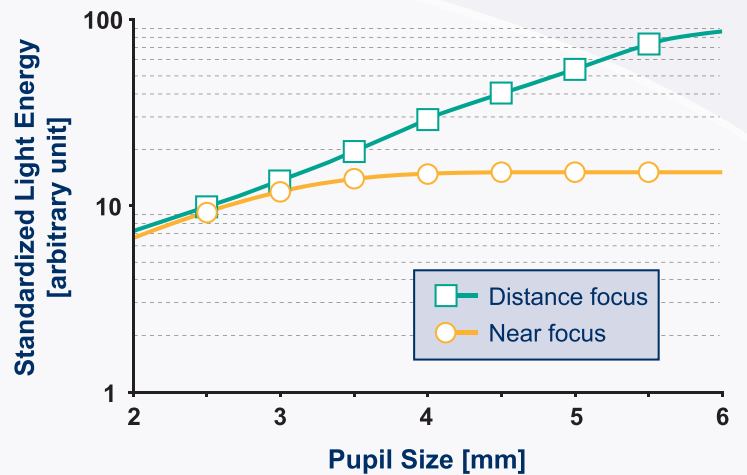
With larger pupils far vision is emphasized by

- ▶ a monofocal, refractive surface in the outer optical zone
- ▶ attenuation of the diffractive step heights towards the periphery

### Near vision

With smaller pupils the central element of the *Diffractiva* emphasises near vision and far vision with the same intensity.

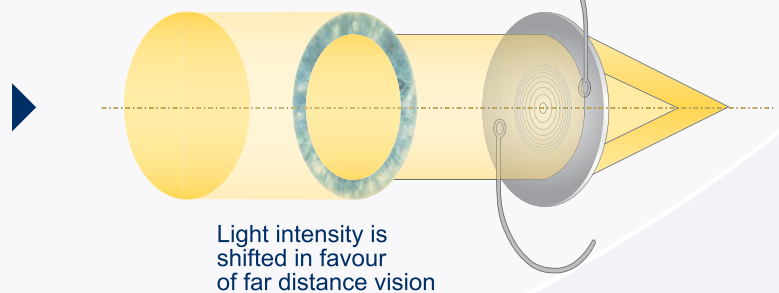
Light distribution in relation to pupil size measured with photometer



Accentuated far vision with the *Diffractiva*



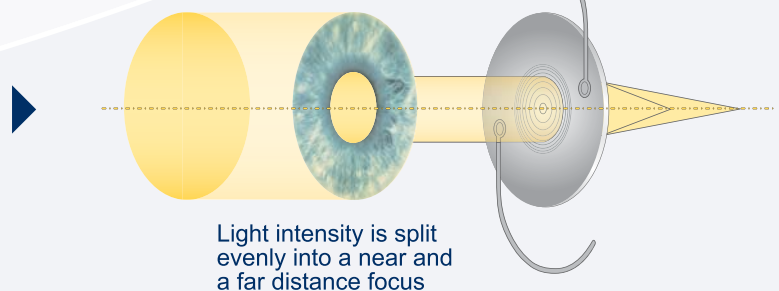
Pupil dilatation under mesopic and far distance conditions



Enhanced reading comfort with the *Diffractiva*



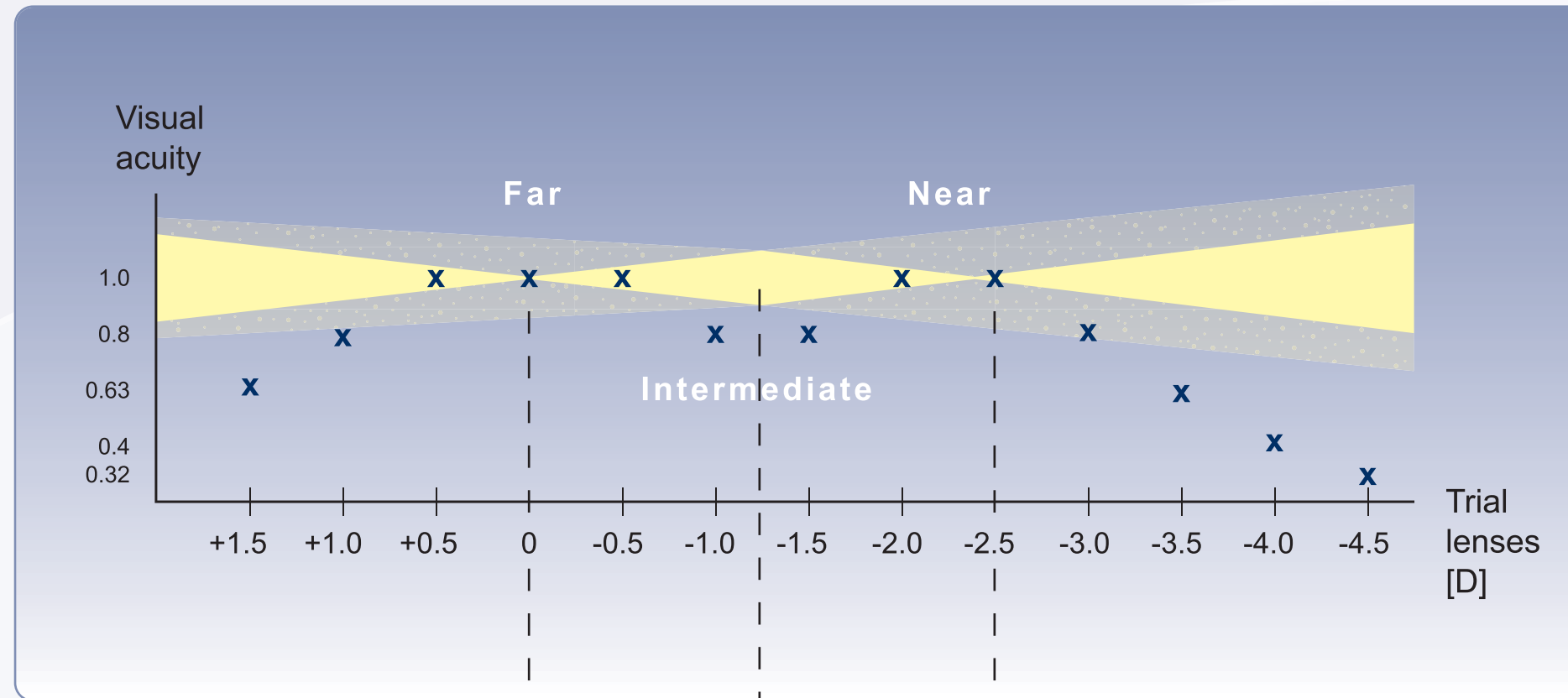
Pupil constriction under photopic and near distance conditions





## Defocus curve diagramm

Actual clinical measurements<sup>1</sup>, monocular at 3 months follow-up, super imposed by image simulations referring to paraxial beam tracing.

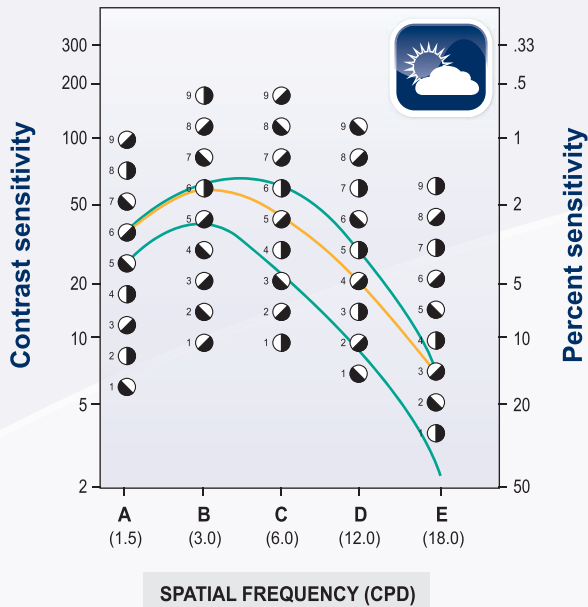


# DiffRACTIVA - Study Results

## Contrast sensitivity (At 3 months postop)<sup>1</sup>

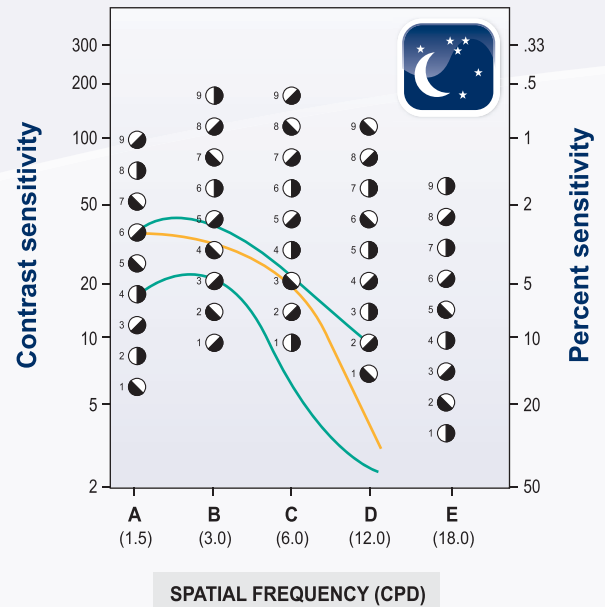
### DAY TESTING WITHOUT GLARE

(GINSBURG Contrast Vision Test)



### NIGHT TESTING WITHOUT GLARE

(GINSBURG Contrast Vision Test)



— Upper and lower quartile for aspheric monofocal IOL  
 — Median DiffRACTIVA



### Making the right choice

Does one of the following criteria apply?

- ▶ Pathological findings with potential to reduced vision (macula degeneration, ...)
- ▶ Predisposition to IOL decentration (zonula weakness,...)
- ▶ High or irregular astigmatism (if not compensated e.g. by toric Add-On IOL)
- ▶ Refusal of side effects like halos etc. (e.g. night drivers,...)
- ▶ Intense need to read small print at dimmed light conditions
- ▶ Failing psycho-physiologic compliance; unrealistic expectations
- ▶ Lack of binocular vision

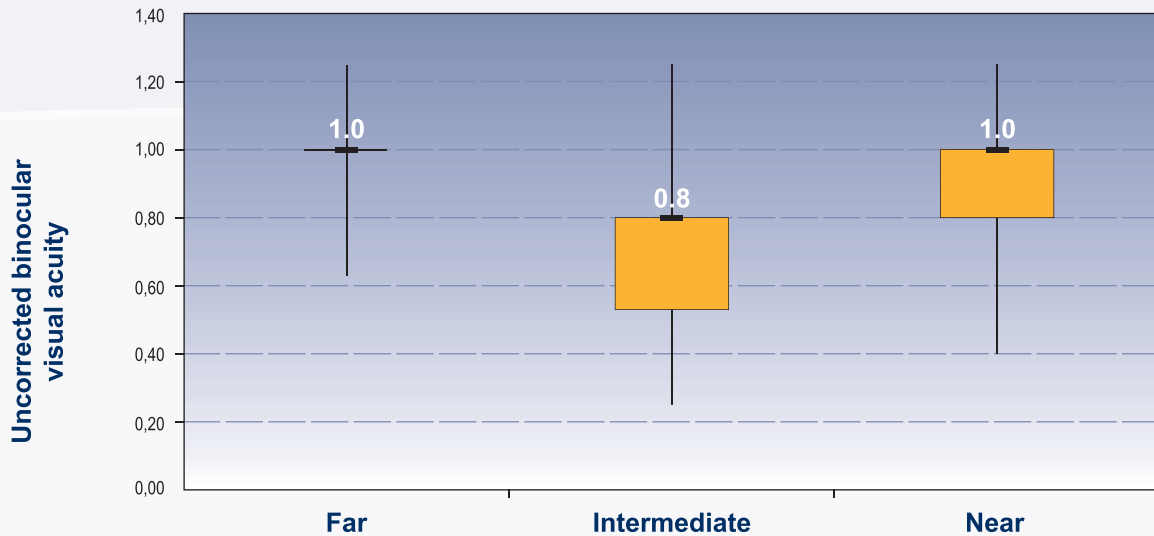
➔ In such cases the patient's visual system might be limited or unable in adjusting to multifocal systems in general!

#### Recommendation:

Consider the diffractive Add-On lens! This principle gives the option to easily remove the diffractive IOL placed in the sulcus without need to touch the capsular bag lens.



## Visual acuity (Binocular far, intermediate and near UCVA one year postop)<sup>2</sup>



## Patient satisfaction

- ▶ The question for overall postoperative patient satisfaction was answered in **100%** of cases with “**excellent**”.<sup>2</sup>
- ▶ All patients would opt for this procedure again.<sup>2</sup>
- ▶ All of the patients exhibited **spectacle free functional vision**.<sup>3</sup>
- ▶ None of the patients needs glasses for far correction and only **5%** of patients stated to use additional **reading glasses** regularly.<sup>2</sup>
- ▶ If explicitly asked, **46%** of all patients had realised glare and halos, out of which only **6%** could not get used to.<sup>2</sup>
- ▶ None of the patients considered mesopic car driving as “**poor**”.<sup>2</sup>

## Implantation

- ▶ All of the IOLs were implanted without difficulty and showed good centration over time. No intra- or postoperative complications were noted.<sup>3</sup>

<sup>1</sup> Data on file, Dr. Schmidt Intraocularlinsen GmbH

<sup>2</sup> Oberheide U, Kermani O, Schmiedt K et al. Diffraktive Sulkusgestützte add-on HKL: Ergebnisse einer prospektiven Studie. DOC 2009; Book of Abstracts; p. 244

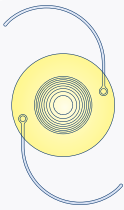
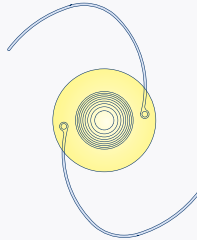
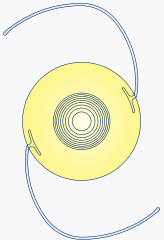
<sup>3</sup> Petrou Binder S. Encouraging results with MS 612 Diffractiva IOL. Eurotimes 14 /4 2009; 33

## Choose from the various, individual solutions!

Besides the capsular bag models, IOLs for sulcus fixation and Add-On solutions are available.

All models have proven their beneficial lens design features since many years, in different conditions and multi-purpose requirements.

All three basic models are also available with yellow colouring agent for blue light protection.

<b>Diffractiva®</b>				<i>Add-On</i>	<i>Add-On</i>
<i>Diff-s</i>	<i>Diff-sAY</i>	<i>Diff-sS</i>	<i>Diff-sSAY</i>	<i>Diff-sPB</i>	<i>Diff-sPBY</i>
					

When using any of our products, it is mandatory that you follow the instructions inserted within the package.

## See the „Difference“ !

Distributed by

  
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