Rigid gas permeable contact lenses

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i-MAP AS

Single vision – Multifocal – Bifocal

High-tech for my everyday life:
Coping with any situation.

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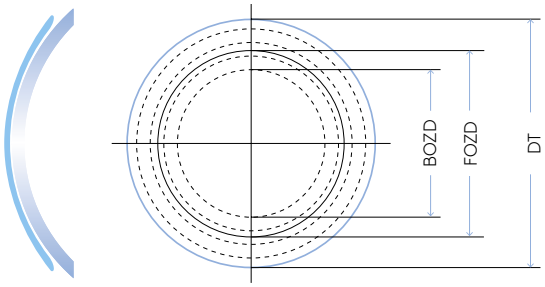
Multi-curve rigid gas permeable contact lenses



i-MAP AS

→ Back surface design

Multi-curve design

- Spherical back optic zone (BOZD)
  Standard 6.0 mm; freely selectable
- Flattening of the multi-curve back surface is described by n.E.

→ Indications of use

- Regular flattening of the cornea
- Independent of numerical eccentricity (n.E) of the cornea
- large pupil diameter
- very high corneal astigmatism
- Ideal for large diameter fitting
  . Total diameter of the lens = HVID – 1.0 mm

→ Advantages over aspheric contact lenses

- Excellent optical qualities
- Suitable for large diameter fitting
  · Due to large BOZD: relieves the sensitive central cornea and shifts the pressure to the peripheral cornea
  · Central relief of the cornea prevents the contact lens from sticking to the eye.

→ Advantages over bi-curve contact lenses

Due to the multi-curve periphery better distribution of the contact area on the cornea
- Especially when fitting large diameters and eccentricity > 0.45

→ Design versions

Design	Description
VP	Front prism ballast
VPT	Toric Front prism ballast
PT (VP/VPT)	Toric periphery (Front prism ballast/ Toric Front prism ballast)
RT (VP)	Back toric (Front prism ballast)
BT (VP)	Bi-toric (Front prism ballast)
QSD (VP/VPT)	QuadrantSpecificDesign
QSD RT (VP)	
QSD BT (VP)	

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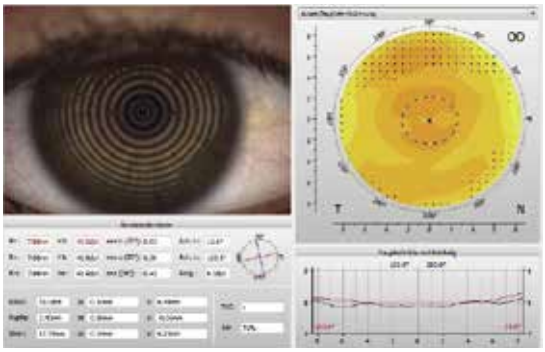
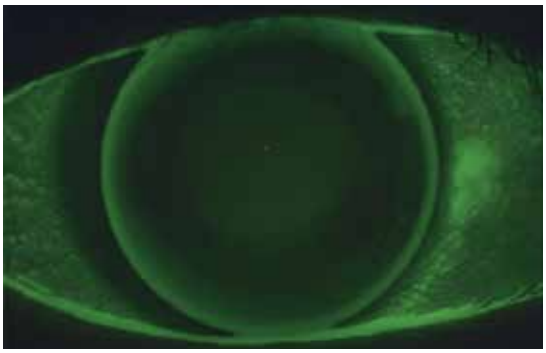
i-MAP AS

Multi-curve rigid gas permeable contact lenses

Case examples

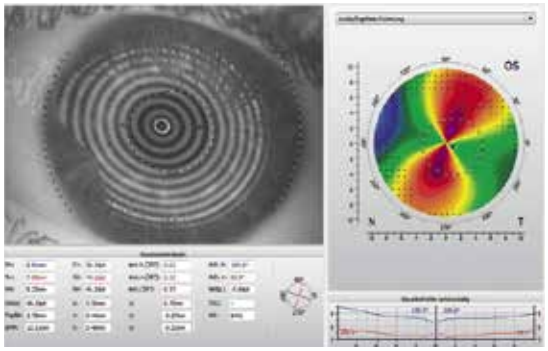
→ Example 1

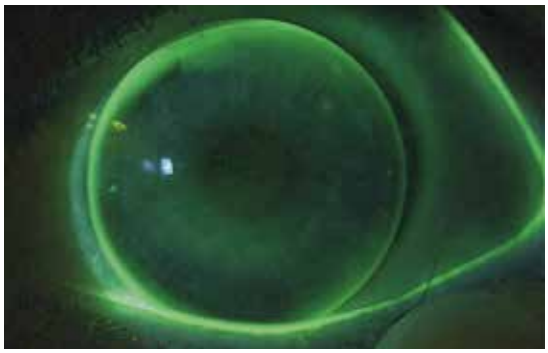




Normal case – i-MAP AS on spherical cornea

→ Example 2





i-MAP AS BT (Bi-toric) on toric cornea.

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Fitting

Determining the ordering parameters

→ Step 1: Choosing the base curve (BC)

Up to 1.5 D corneal astigmatism

- Base curve = flattest central corneal radius
- BC in 0.05 mm steps

With-the-rule corneal astigmatism

Difference between central corneal radii ≤0.4mm

- flattest base curve = flattest central corneal radius
- steepest base curve = steepest central corneal radius
- BC in 0.05 mm steps

Difference between central corneal radii >0.4 mm

- flattest base curve = flattest central corneal radius
- steepest base curve = steepest central corneal radius +0.1 mm
- BC in 0.05 mm steps

Against-the-rule corneal astigmatism ≥ 2 D

- flattest base curve = flattest central corneal radius +0.05 mm to 0.1 mm flatter
- steepest base curve = steepest central corneal radius
- BC in 0.05 mm steps

Oblique corneal astigmatism ≥ 2 D

- flattest base curve = flattest central corneal radius
- steepest base curve = steepest central corneal radius
- BC in 0.05 mm steps

→ Step 2: Selecting the numerical eccentricity (n.E.)

The n.E of the contact lens should be equal to the mean value of the corneal n.E. (mean of nasal, temporal, superior and inferior) – or the mean value of the flattest corneal meridian

- n.E. of the contact lens in 0.05 steps

Type of fitting to aim for: Contour fitting

Strategy

Due to the large BOZD (back optic zone diameter) and elliptical shape of the cornea, the parallelism of the i-MAP AS at the centre of the cornea is eliminated, if the radii are matched (base curve = flattest central corneal radius).

Goal

The goal is a slight vaulting (clearance) of the sensitive central cornea and shifting the contact area to the mid-periphery.

- Corneal nerve fibre density is greatest at the centre!
- Maximising wearing comfort.

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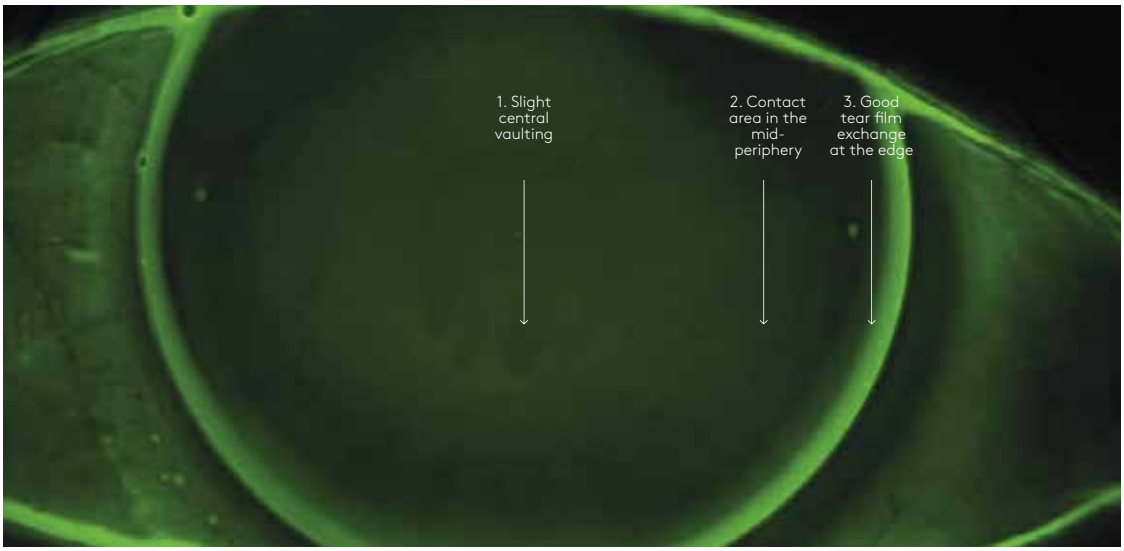
i-MAP AS

Multi-curve rigid gas permeable contact lenses



i-MAP AS BT BC 8.3/7.7 DIA 10.7 n.E 0.5

→ Step 3: Choosing the diameter

Past and present approach

Benefits mentioned in relation to small contact lenses are outdated because they date from times when PMMA and CAB materials (Dk = 0) were still used.

The aversion to large diameter contact lenses that got stuck to the eye also dates from earlier times.

- Absence of suitable designs for large contact lenses
- Insufficient knowledge of the shape of the cornea

Selecting the diameter of the contact lenses primarily depends on the following factors:

a) HVID
b) Desired fitting technique and the fitter's philosophy
   - Corneal fitting
   - Large diameter fitting

Corneal fitting

As a common rule of thumb, the following is valid for the selection of the diameter:
- CL DIA = HVID – 2.0 mm

Advantages

- Good movement of the contact lens on the eye
- Optimal removal of metabolic waste products from under the contact lens
- Higher oxygen supply to the cornea

Disadvantage

The increased movement of the contact lens on the eye increases the foreign body sensation which results in a longer adaptation period.

Large diameter fitting

For the selection of the diameter the following commonly applies

- CL DIA = HVID – 1.0 mm to 1.3 mm

Advantages

- Faster adaptation and higher acceptance through better wearing comfort with less movement of the contact lens on the eye
- With the back surface design of the i-MAP AS the sensitive centre of the cornea is better relieved
  · Additional support for adaptation
- Ideal fitting technique for new patients and those switching from soft contact lenses

Disadvantages

No real disadvantages.

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Fitting multifocal

→ Patient selection

Ideal indications for the fitting of multifocal rigid gas permeable contact lenses

- Patients who have already been wearing contact lenses and were satisfied with them
- New potential contact lens wearers, who...
  ...have a high motivation to go without glasses
  ...are ready to make compromises if they can go without glasses
  ...have already been dependent on a correction of ametropia
  ...(hyperopic), have not yet been corrected and are used to a slight blur in the distance

Unfavourable indications for the fitting of multifocal rigid gas permeable contact lenses

- Patients with a low distance prescription
- Myopic patients who take off their glasses for reading

→ What should be considered?

Measurements prior to fitting:
- Refraction (Rx) and visual acuity (VA)
- Corneal radii (topography)
- Corneal diameter (HVID)

Multifocal contact lenses:
- Pupil diameter under normal room lighting conditions
- Dominant eye
- Reading Add depending on test distance:

Age	45	48	50	55	> 55
Distance 33 cm	1.00	1.50	2.00	2.50	3.00
Distance 40 cm	0.75	1.0	1.25	1.75	2.25

→ Fitting guide

1. Collecting of all relevant data (refraction, topography, dominant eye, etc.)
2. Ordering individual trial lenses with centre distance
3. Assessing the fit of the trial lenses (movement, diameter, stabilisation, centration, visual acuity [F/N])
4. Modification according to subjective and objective assessment

The aim in choosing the base curve

Parallel fitting with slight central clearance in the fluorescein pattern.

Corneal astigmatism

- Avoid highriding position caused by with-the-rule astigmatism
- In case of high position due to with-the-rule astigmatism <0.4 mm, select toric periphery or back-toric design, possibly a prism to ensure stabilisation)
- Prism to support the principle of gravity
- Prism + ovalisation

Choosing the contact lens diameter

i-MAP AS Multi CD or i-MAP AS Progress-F

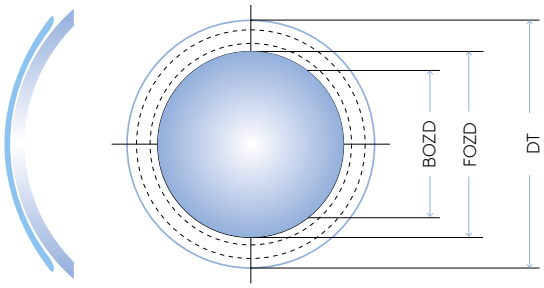
As large as necessary: DIA = HVID – 1.5 mm
- Ensuring the process of translation

i-MAP AS Multi CN or i-MAP AS Progress-N

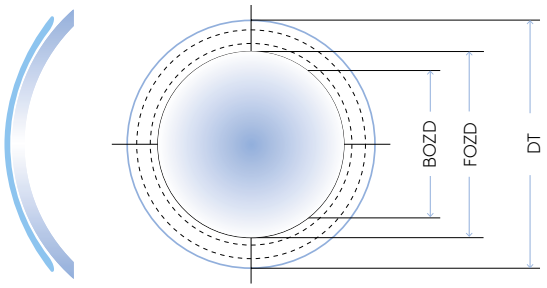
- As large as possible (ensuring centration)
- Avoiding translation

i-MAP AS *Multi*

Multi-curve, multifocal rigid gas permeable contact lenses



i-MAP AS Multi CD



i-MAP AS Multi CN

→ Front surface design

The multifocal optics are positioned on the front surface and resemble an aspherical design.

Due to its design, the functional principle is mainly independent from the centration to the pupil and the pupil diameter. Also, the multifocal effect is independent from head and eye movements, resulting in a high degree of initial visual comfort for all distances.

Presbyopic patients of all ages

The central and peripheral zones vary with the amount of addition. The design itself takes into account that older patients require a higher reading add, and usually have a smaller pupil diameter and a smaller amplitude of accommodation compared to younger presbyopes.

Centre Distance (CD) or Centre Near (CN)

The multifocal design is available in 2 versions:

- CD – centre distance: recommended as first choice for the correction of presbyopia
- CN – centre near

With the CN design, the size of the maximum reading add area can be changed.

i-MAP AS *Multi*

Multi-curve, multifocal
rigid gas permeable contact lenses

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→ Front surface design

- Multifocal, spherical or toric
- CD: Centre distance
- CN: Centre near

→ Back surface design

Design multi-curve

- Spherical back optic zone (BOZD) Standard 6.0 mm; can be freely selected
- Peripheral flattening of the multi-curve back surface is described by n.E.

→ Choosing the multifocal design

	Dominant eye	Non-dominant eye
Myopia + Hyperopia	CD	CD
Near vision insufficient with CD in both eyes	CD	CN
Near vision useless with CD in both eyes	CN	CN

→ Design options

Design	Description
VP	Front prism ballast
VPT	Toric Front prism ballast
PT (VP/VPT)	Toric periphery (Front prism ballast/ Toric Front prism ballast)
RT (VP)	Back toric (Front prism ballast)
BT (VP)	Bi-toric (Front prism ballast)
QSD (VP/VPT)	QuadrantSpecificDesign
QSD RT (VP)	
QSD BT (VP)	

→ Product range

i-MAP AS Multi CD / CN	
Back surface design	Spherical, RT, BT, VPT, PT, QSD
Base curve	6.8 to 9.3 mm in 0.05 mm steps
Spherical Power range	+25.0 to –30.0 D in 0.125 D steps
Cylinder	–0.50 to –8.0 D in 0.125 D steps
Axis	0° to 180° in 1° steps
Diameter	8.3 to 12.4 mm in 0.1 mm steps
Reading addition	0.5 to 4.0 D in 0.25 D steps
Profile	CD (Centre Distance) / CN (Centre Near)
Bifo-factor for CN profile	standard 0.15 in 0.01 steps

→ Materials

See list on page 21.

→ Fitting recommendations

Type of fitting to aim for: Contour fitting

Strategy

Due to the large BOZD (back optic zone) and elliptical shape of the cornea, the parallelism of the i-MAP AS in the centre of the cornea is eliminated if the radii are matched (base curve = flattest corneal radius).

Goal

The goal is a slight vaulting (clearance) of the sensitive corneal centre and shifting the contact area to the mid-periphery

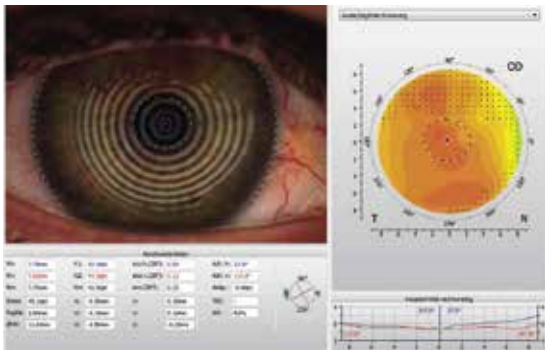
- Corneal nerve fibre density is greatest at the centre!
- Maximising wearing comfort

Other fitting recommendations see on pages 5–7.

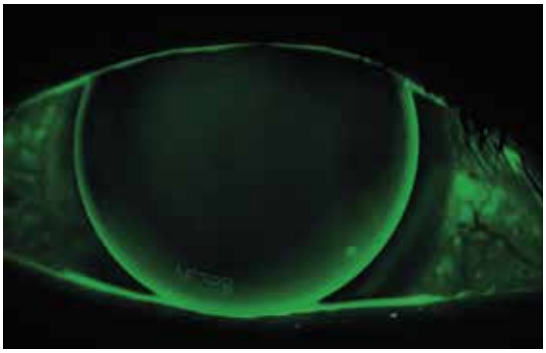
i-MAP AS *Progress*

Multi-curve, multifocal rigid gas permeable contact lenses

→ Example 1

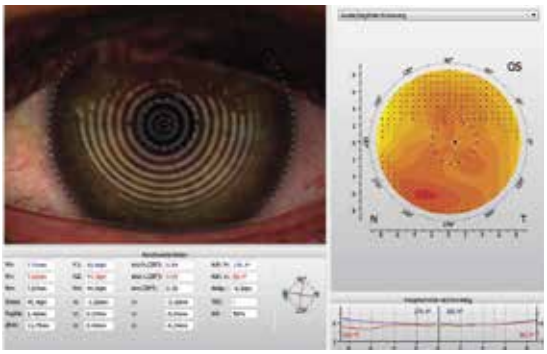


Case i-MAP AS Progress-F

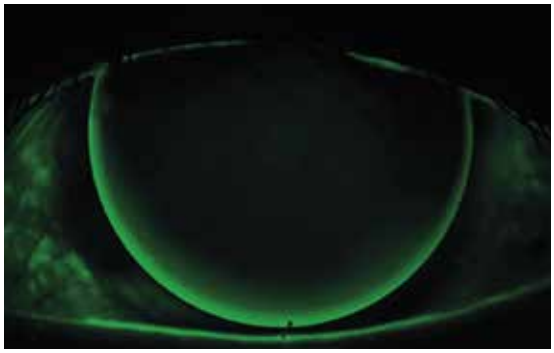


RE (Dominant eye): i-MAP AS Progress-F BC 7.8
DIA 10.2 n.E 0.5 Add 1.75 ØFZ 4.5

→ Example 2



Case i-MAP AS Progress-F



LE (Non-dominant eye): i-MAP AS Progress-F BC 7.7
DIA 10.2 n.E 0.5 Add 1.75 ØFZ 4.3

i-MAP AS *Progress*

Multi-curve, multifocal rigid gas permeable contact lenses

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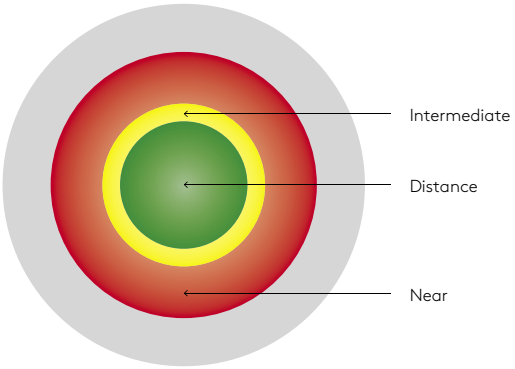
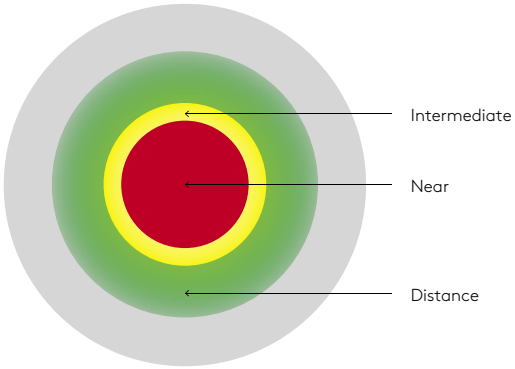


Centre distance: simultaneous alternating system



Centre near: simultaneous system

→ Two designs: Centre distance or centre near

The i-MAP AS Progress is available in two types

i-MAP AS Progress-F

Concentric structure, centre distance

i-MAP AS Progress-N

Concentric structure, centre near

In most cases the distance correction is located in the centre. Because of convergence and depression of the eyes multifocal rigid gas permeable lenses tend to shift diagonally to the top. The result is an increase in the reading effect.

→ i-MAP AS Progress-F

Concentric structure with centre distance

- High demands of the patient for distance vision
- Predominant VDU use
- For small to medium pupil diameters
- For pupils with poor dilation

Advantages (with ideal centration)

- Pupil is completely covered by the distance zone when looking straight ahead
- Very good distance vision
- Simultaneous alternating system

Disadvantages (with ideal centration)

During the adaptation period, possible halo vision at dusk/night with dilated pupil.

→ i-MAP AS Progress-N

Concentric structure with centre near

- High demands of the patient for near vision
- For large to medium pupil diameters
- At reading position = straight direction of gaze

Advantages (with ideal centration)

- Very good near vision with optimal centration
  · Head lowering required for reading
- Predominant near work while looking straight ahead

Disadvantages (with ideal centration)

- Simultaneous system
- Selection and ignorance principle for distance

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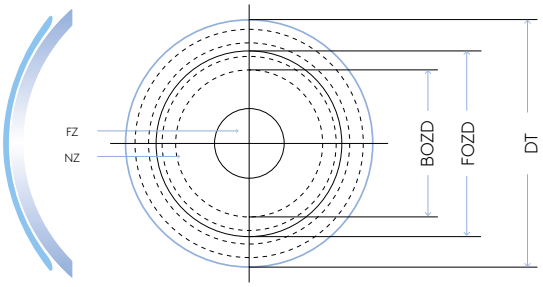
i-MAP AS *Progress-F*

Multi-curve, multifocal rigid gas permeable contact lenses



i-MAP AS Progress-F

→ Front surface design

- Multifocal, spherical or toric
- Centre distance
- The central zone contains the distance and intermediate correction at a ratio of 75%:25%
- The zone ratio can be freely selected

→ Back surface design

Multi-curve design

- Spherical back optic zone (BOZD) Standard 6.0mm; can be freely selected
- Peripheral flattening of the multi-curve back surface is described by n.E.

→ Selecting the zone size

Dominant eye	
Pupil ≤ 3.5 mm	3.8 mm to 4.3 mm
Pupil ≥ 3.5 mm	4.3 mm to 4.8 mm
Recommendation	**4.5 mm**

Non-dominant eye	
Pupil ≤ 3.5 mm	3.6 mm to 4.0 mm
Pupil ≥ 3.5 mm	4.0 mm to 4.5 mm
Recommendation	**4.3 mm**

→ Design options

Design	**Description**
VP	Front prism ballast
VPT	Toric Front prism ballast
PT (VP/VPT)	Toric periphery (Front prism ballast/ Toric Front prism ballast)
RT (VP)	Back toric (Front prism ballast)
BT (VP)	Bi-toric (Front prism ballast)
QSD (VP/VPT)	QuadrantSpecificDesign
QSD RT (VP)	
QSD BT (VP)	

→ Product range

Everything that is technically possible. Ask us – we are open for your individual wishes.

→ Materials

See page 21.

→ Fitting recommendations

Optimal centration to the pupil

– Avoid highriding or horizontal decentration

Medium movement

- Slight translation must be granted
- Do not select too large a total diameter

Other fitting recommendations see pages 5–7.

i-MAP AS *Progress-N*

Multi-curve, multifocal rigid gas permeable contact lenses

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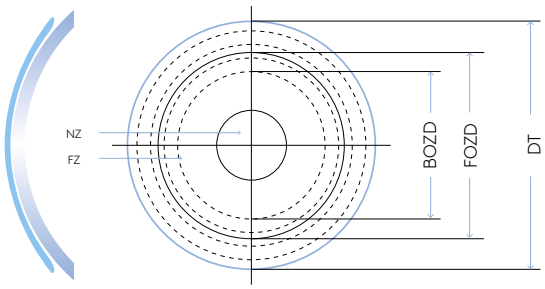


i-MAP AS Progress-N

→ Front surface design

- Multifocal, spherical or toric
- Centre near
- The central zone contains the distance and intermediate correction at a ratio of 75%:25%
- The zone ratio can be freely selected

→ Back surface design

Multi-curve design:
- Spherical back optic zone (BOZD) Standard 6.0 mm; can be freely selected
- Peripheral flattening of the multi-curve back surface is described by n.E.

→ Selecting the zone size

Dominant eye	
Pupil ≤ 3.5 mm	2.5 mm to 3.2 mm
Pupil ≥ 3.5 mm	2.8 mm to 3.5 mm
Recommendation	**3.3 mm**

Non-dominant eye	
Pupil ≤ 3.5 mm	2.8 mm to 3.5 mm
Pupil ≥ 3.5 mm	3.2 mm to 3.8 mm
Recommendation	**3.5 mm**

→ Design options

Design	**Description**
VP	Front prism ballast
VPT	Toric Front prism ballast
PT (VP/VPT)	Toric periphery (Front prism ballast/ Toric Front prism ballast)
RT (VP)	Back toric (Front prism ballast)
BT (VP)	Bi-toric (Front prism ballast)
QSD (VP/VPT)	QuadrantSpecificDesign
QSD RT (VP)	
QSD BT (VP)	

→ Product range

Everything that is technically possible. Ask us – we are open for your individual wishes.

→ Materials

See page 21.

→ Fitting recommendations

Optimal centration to the pupil

- Avoid highriding or horizontal decentration

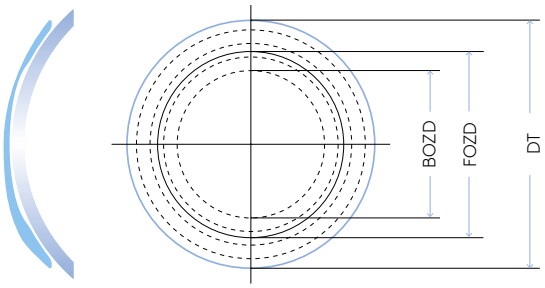
Low movement

- Ensuring centration to the pupil when looking down
- Choose a large diameter

Other fitting recommendations see pages 5–7.

i-MAP AS *Bifo*

Multi-curve, bifocal rigid gas permeable contact lenses



i-MAP AS Bifo

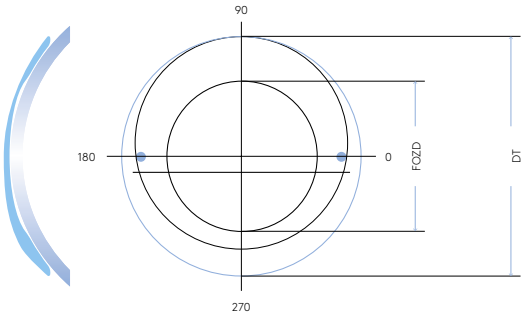
→ Front surface design

The segment of the near zone of the i-MAP AS Bifo is located 1 mm below the geometric centre as standard, and can be varied in 0.05 mm steps.

Additionally, the inclination of the near segment can be rotated in 1° steps. To measure the inclination or stabilisation, the contact lenses have a marker at 0° and 180°.

In order to ensure that the contact lens slides down quickly after blinking, the i-MAP AS Bifo is manufactured with a standard prism 1.5 cm/m at 270°. The prism can be changed in power (in 0.25 cm/m steps) and axis (in 1° steps).

- Bifocal, spherical or toric
- Front prism ballast



i-MAP AS Bifo front surface

→ Back surface design

Multi-curve design

- Spherical back optic zone (BOZD) Standard 6.0 mm; can be freely selected
- Peripheral flattening of the multi-curve back surface is described by n.E.

i-MAP AS *Bifo*

Multi-curve, bifocal rigid gas permeable contact lenses

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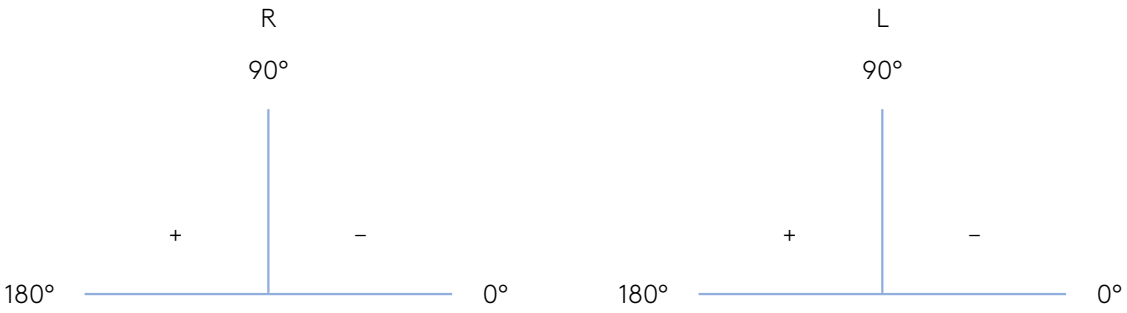


TABO Graduated Dial Scale

→ Design options

Design	Description
VPT	Toric Front prism ballast
PT (VT)	Toric periphery (Front toric)
RT	Back toric
BT	Bi-toric
QSD (VT)	QuadrantSpecificDesign
QSD RT	
QSD BT	

→ Product range

Everything that is technically possible. Ask us – we are open for your individual wishes.

→ Materials

See page 21.

→ Fitting recommendations

Specific fitting recommendations i-MAP AS Bifo see page 18.

Other fitting recommendations see pages 5–7.

→ Function

Functional principle of bifocal contact lenses

For straight gaze

Pupil is covered by the distance segment of the contact lens.

For downward gaze

Translation causes the near segment to shift in front of the pupil
- Translation occurs by supporting the contact lens on the lower eyelid

Condition for the optimal functioning of bifocal contact lenses

Optimal centration of the distance segment to the pupil

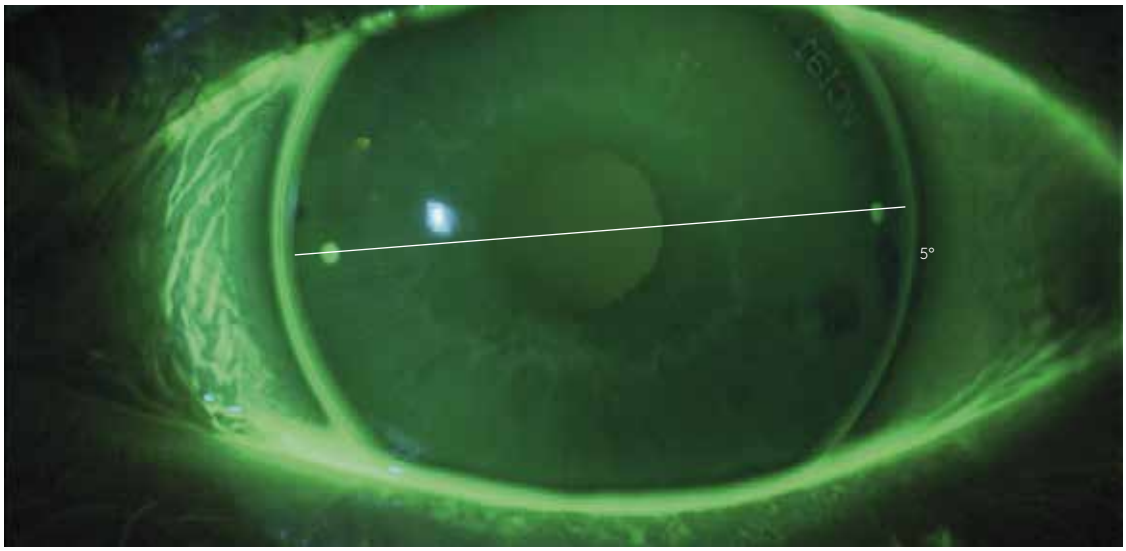
- Avoid highriding
- Fast translation of the contact lens after blinking

Medium movement

Translation must be granted
- Do not select too large a total diameter

Inclination of the near segment

- Ideally a slight rotation nasally upwards of approx. 5° to 10°
- A rotation temporally upwards is unfavourable



Measurement of the stabilisation according to TABO.

Condition for with-the-rule, against-the-rule, and oblique astigmatism

- The near segment and the prism base must be rotated according to the expected stabilisation of back toric or peripheral toric designs; the same applies to truncation and ovalisations
- Calculating the rotation of the near segment and prism etc. is done according to the rule below

LARS rule (left add – right subtract)

Is used to calculate the final power of the contact lens in case of a toric over-refraction over a toric contact lens, under consideration of the stabilisation axis

- The stabilisation is specified according to the TABO Graduated Dial Scale (see diagram on page 15)

Measuring the stabilisation

Stabilisation measurement to be done at the slit lamp, according to TABO also (see figure above).

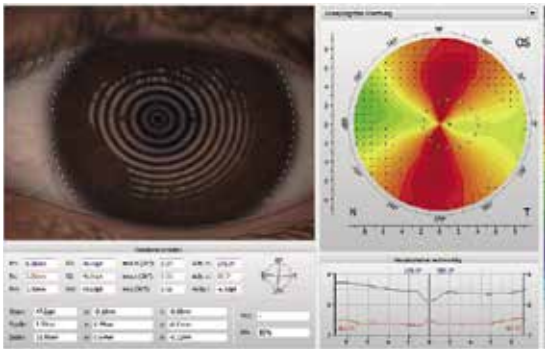
Expected stabilisation of different types of contact lenses

VP(T)	180° (± 20°); potentially adjust segment to the expected stabilisation
PT / PT VT	in the flatter corneal meridian; potentially adjust prism and segment to the expected stabilisation
PT VP / PT VPT	in the flatter corneal meridian; potentially adjust prism and segment to the expected stabilisation
RT / BT	in the flatter corneal meridian; potentially adjust prism and segment to the expected stabilisation
RT VP / BT VP	in the flatter corneal meridian; potentially adjust prism and segment to the expected stabilisation
QSD VT	in the flatter corneal meridian; potentially adjust prism and segment to the expected stabilisation
QSD VPT	in the flatter corneal meridian; potentially adjust prism and segment to the expected stabilisation
QSD RT / BT	in the flatter corneal meridian; potentially adjust prism and segment to the expected stabilisation
QSD RT VP /	in the flatter corneal meridian; potentially adjust prism and segment to the expected stabilisation

Case examples

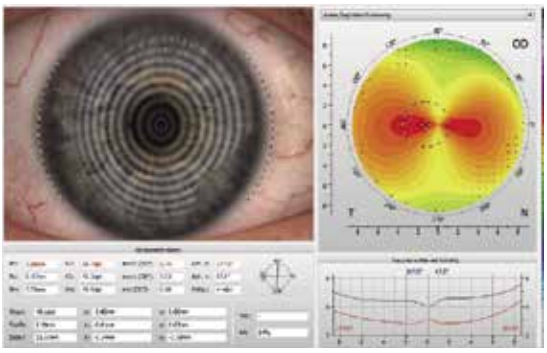
What about the expected stabilisation?

→ Example 1 (left eye)



The toric lens will stabilise in the axial position of the flatter corneal meridian (173°). The near segment also inclines at 173° and so ideally rotates slightly nasally upwards. In this case, the near segment and prism do not need to be rotated.

→ Example 2 (right eye)



The toric lens will stabilise in the axial position of the flatter corneal meridian (88°). In order for the near segment to incline approx. 5°, the segment must be rotated to 95°. In addition the prism must be rotated from the standard 270° to 182° to ensure safe stabilisation at 88°.

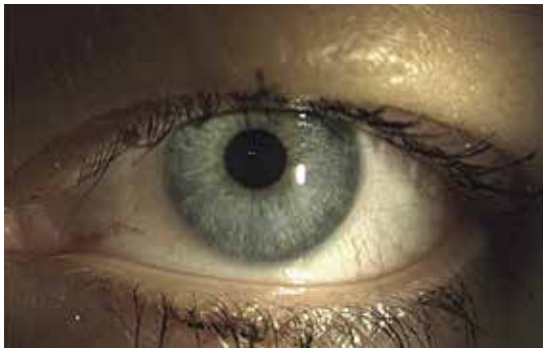
i-MAP AS *Bifo*

Multi-curve, bifocal
rigid gas permeable contact lenses

Fitting

→ Fitting guide

1. Collect all relevant data
   (refraction, topography, dominant eye, etc.)
2. Order individual bifocal trial lenses
3. Evaluate the fit of the trial lenses
   (movement, diameter, stabilisation, centration, visual acuity [F/N])
4. Modify according to subjective and objective assessment



Low lower eyelid position:
Increase segment height (to –0.5 mm or higher)

Choosing the base curve

Goal

Parallel fitting with slight central clearance in the fluorescein pattern

Selecting the diameter of the contact lens

Do not go too large

Ensure translation

Do not go too small

Due to increased movement, the near segment is shifted more in front of the pupil caused by blinking

Selecting the segment height

- Standard segment height = 1 mm below the centre
- Start with standard segment height
- Exception: low lower eyelid position (see picture left)

Corneal astigmatism and upper eyelid support

- Avoid highriding position due to with-the-rule astigmatism
- In case of high position due to with-the-rule astigmatism <0.4 mm
  · Select toric periphery or back toric design
  · Increase prism to support gravity principle
  · Increase prism + ovalisation

Troubleshooting

What do you do in case of a problem? Don't worry. Troubleshooting with bifocal contact lenses is much easier than with multi-focal contact lenses. Possible diagnostic findings:

→ Distance good – near bad

Reasons

- Over-refraction distance / near
- Reading add based on age?
- Translation working?
- Inclination of the near segment?

→ Contact lens not supported by the lower eyelid

Reasons

Often with high lower eyelid position and / or low eyelid tension

Solution

Application of a truncation + increasing of the prism ballast
- The higher the prism, the more distinct the truncation
- Truncation minimum 0.4 mm

→ Distance bad – near good

Reasons

- Missing over-refraction
- Highrider
- Upper eyelid support
- High lower eyelid position

Solutions

- Increase of the prism by at least 0.5 cm/m and/ or
- Ovalisation (minimum 0.4 mm)
- Reduction of the near segment height

→ Reduced distance vision due to high lower eyelid position

Reason

The lower eyelid can push the segment in front of the pupil

Solution

Application of a truncation
- CL translates lower onto the lower eyelid

→ Distance good, near good – intermediate poor

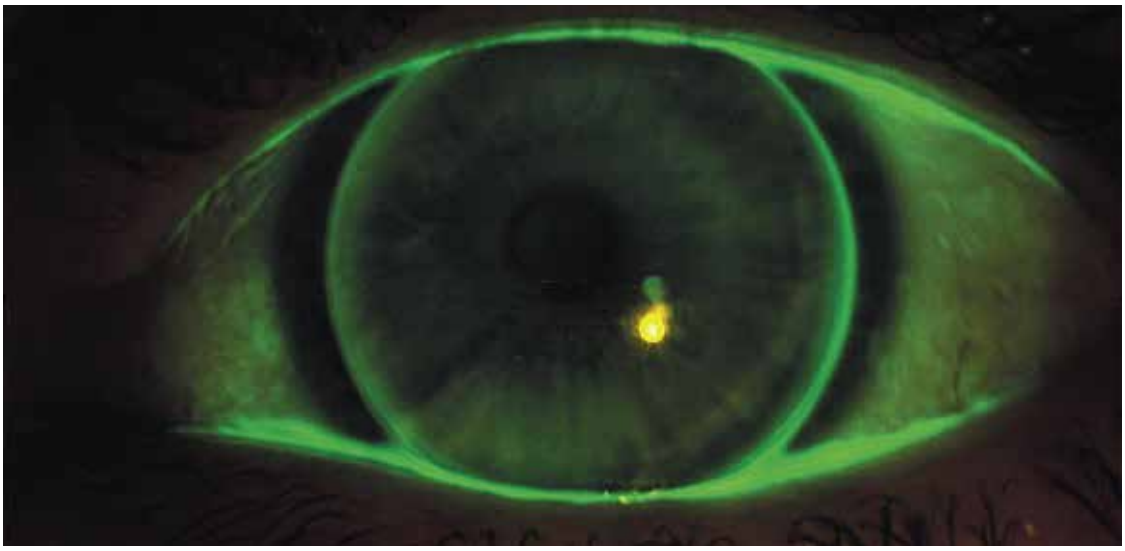
Reason

Missing of intermediate zone in a bifocal contact lens

Solution

Modified monovision

Poor translation due to low lower eyelid position: Increase the total diameter and/or increase the near segment height.



High lower eyelid position: Due to the high positioning of the lower eyelid in relation to the iris
a) the near segment is pushed in front of the pupil, or
b) the bifocal contact lens slides underneath the lower eyelid.

In both cases the application of a truncation at 270° helps, that
a) the contact lens translates lower onto the lower eyelid, or
b) the contact lens can be positioned on the lower eyelid.

MATERIAL LIST

Rigid gas permeable contact lenses

appenzeller kontaktlinsen®
passt.

+++ Very good ++ Good + Sufficient – Not recommendable	Optimum Classic	Optimum Comfort	Optimum Extra	Optimum Extreme	Optimum Infinite	Boston IV	Boston ES	Boston Equalens	Bosteon EO	Boaton XO	Visaflex	PMMA	TLM
Composition	MMA + SI + F	MMA + SI + F	MMA + SI + F	MMA + SI + F	MMA + SI + F	MMA + SI	MMA + SI + F	MMA + SI + F	MMA + SI + F	MMA + SI + F	MMA + SI	MMA	MMA + SI + F
Dk-Value*	26	65	100	125	180	19	18	47	58	100	18	0-0.5	
Refractive index	1.450	1.441	1.431	1.432	1.438	1.469	1.443	1.438	1.429	1.415	1.492	1.490	1.45
Specific gravity (g/cm^3)	1.190	1.178	1.160	1.150	1.200	1.100	1.220	1.190	1.230	1.270	1.120	1.180	
Wetting angle (°)	12***	6***	3***	6***		17**	52**	30**	49**	49**	25**	27**	
Surface hardness (Shore)	83	79	75	77	81	84	85	82	83	81	86	90	
UV- filter	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No	
Tints	Blue	Aqua Blue Green Brown	White Aqua Blue Green	Aqua Blue Green Red Violet	White Aqua Blue	Blue	Aqua Blue Green	Blue	Aqua Blue Green	Aqua Blue Green Red Violet	Blue Green	White Grey	Red Violet
Resistance to tear film containing proteins	++	++	++	++	++	+	++	++	++	+++	+	+++	++
Resistance to tear film containing lipids	++	++	++	++	++	+++	++	++	+	+	+++	+++	+
Breaking resistance	+++	++	+	+	+	+++	+++	++	+++	++	+++	+++	++
Parameter stability	++	+	+	+	+	+++	+++	++	++	++	+++	+++	++
Overnight wearing (Ortho-K)	–	–	+	+	+	–	–	–	–	+	–	–	–

* ISO 9913-1, Unit X10^{-11} (cm^2/sec) [mlO_2/(ml x mmHg)] ** Bubble cap method *** Manufacturer indications

TLM is our trial lens material and cannot be sold

passt.

COMFORT AND SAFETY

Our recommendations for the care regime of rigid gas permeable contact lenses:

Individual products or sets. Compiled to your wishes.

Contact lenses are not just a product. Contact lenses are a process that begins with your consultation. And continues after a successful fitting. Because contact lenses need to be inserted and removed. And because they need to be cleaned and stored. That's why we don't just supply you with contact lenses made to order, but also with know-how made to order. This includes our Professional Service, which is there for you in word and action. It also includes care products and accessories that give your patients the greatest possible feeling of comfort, health and safety.

Clean and rinse, disinfect and store : This is the sequence. And accordingly, we offer you products that are precisely matched to each other in exactly the combination you want. Put together nicely as a set wrapped in thin transparent film, which can be removed without scissors.

Combination example:

- 1x Cleaner plus 1x Saline plus 1x Peroxid plus 1x Enzyme
- 1x Cleaner plus 1x Saline plus 1x All-in-One RGP

See also brochure Appenzeller Kontaktlinsen Comfort and safety

1. Cleaning Daily

Appenzeller Kontaktlinsen® Cleaner

Alcohol-based cleaner

For daily care of rigid gas-permeable contact lenses (also GP-plasma-coated) and soft contact lenses.

2. Rinsing Daily

Appenzeller Kontaktlinsen® Saline

Saline as inserting solution

For all types of contact lenses - except scleral lenses - and for rinsing of soft and rigid gas-permeable contact lenses. Both after cleaning the lens and before putting the lens on the eye.

3. Disinfection and storage
Daily

Appenzeller Kontaktlinsen®
Peroxyd

Disinfection and neutralisation in 1 hour

The disinfection and neutralisation can be carried out very simply, quickly and a 100% efficiently. Appenzeller Kontaktlinsen make it possible with this peroxide system. For conventional soft lenses, disposable lenses and rigid gas permeable lenses (RGP)

Appenzeller Kontaktlinsen®
All-in-One Soft

Disinfectant

For all those who do not opt for the peroxide system and its unusually rapid effect (see column on the left): All-in-One Soft – the multipurpose solution with sodium hyaluronate for longer effect, longer wearing time, longer feeling of comfort.

4. Protein removal
Once a week

Appenzeller Kontaktlinsen®
Enzyme

Intensive cleaning

Protein deposits build up on the lens every day. In addition to the daily neutralisation of the lenses, a weekly protein removal removing is needed when using the peroxide system.

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10 Reasons

Why to choose Appenzeller Kontaktlinsen

→ Fitting success

We do everything we can to understand your wishes and ideas. So that your fitting is a complete success – for you and your patients.

→ Technological advantage

We put a great deal of effort into Research & Development to ensure that our contact lenses always meet the latest technological possibilities.

→ Swiss made

We demand the highest standards of the manufacturing quality of our contact lenses, so that they match your equally high expectations of Swiss made.

→ Reproducibility

We help you keeping your patients satisfied by ensuring that you receive the same lens as before with your repeat order.

→ Open ears

Our Professional Services team advises you competently, personally and patiently. They will answer every question and make sure you get the right contact lens in any case.

→ Custom made

Each contact lens is individually made to order for you, so that it matches your specifications a 100%.

→ Right to exchange

We send out our contact lenses with or without the right to exchange, so you can make the best choice for your needs. The option "with right to exchange" gives you financial security: you can order a different lens later. If you do so within the exchange period, you pay only a small excess. The date on the delivery note is decisive for the deadline.

– Soft contact lenses:
  • *i*-SOFT 3-monthly lenses: 1 month
  • 6-monthly lenses: 2 months
  • 12-monthly lenses: 3 months
– Rigid gas-permeable lenses: 3 months

→ Price advantage

We offer you favourable terms of payment. You can get extra benefits if you pay in advance. We will happily let you know about the current conditions on request.

→ Guarantee scheme

We take responsibility for our work so you can rely on us and our contact lenses with guarantee. Guarantee period:

– *i*-SOFT 3-monthly lenses: 1 month
– 6-monthly lenses: 2 months
– 12-monthly lenses: 3 months

Broken lens: Return us the lens within the guarantee period and we will replace it. We will credit it on your next invoice accordingly. The date on the delivery note is decisive for the guarantee period.

→ Long-term vision

We strive for a lasting business relationship with you, so that you can also count on us in the long term.

Rigid gas permeable contact lenses

i-MAP AS

PREMIUM