

Product catalogue





Making the most of the visual capacity

Care

Innovation

Knowledge



It started
with a *passion*

”The challenge that inspired him the most: to solve difficult optical problems and help people with low vision.”

Multilens was started in 1983 by Lars Hellström, who after 35 years in the optical business decided to focus on the challenge that inspired him the

most: to solve difficult optical problems and help people with low vision.

Together with optometrists, eye care practitioners and eye doctors he created new, innovative optical solutions. Within a short period of time the whole Hellström family was committed. Multilens has since become a leader in low vision optics, helping thousands of people to a better vision and quality of life.

Today, Multilens provides a wide range of optical solutions. And most important – Lars Hellström’s passion for solving optical challenges still runs through the veins of the company and is manifested in our brand values: **CARE, INNOVATION and KNOWLEDGE.**



For product support,
we advise you to contact
your local support.
(See last page for details.)

If you want to contact Multilens:
Phone: +46 31 88 75 50
E-mail: info@multilens.com
www.multilens.com

We are here for you

Planning and ordering lens solutions can sometimes feel complicated especially when the order is rare. Please contact your local Multilens representative for help or give our central RX support a call!

Do you want help choosing a solution?

We recommend you discuss ideas with our RX support. They can guide you from the start, in the choice of solution, but also in optimising a solution that you have already started.

Maybe the lens could be thinner with a special grinding? Maybe the frame has extreme dimensions and you need a lens where individual frame parameters are possible? Or maybe you should add prisms to improve the solution?

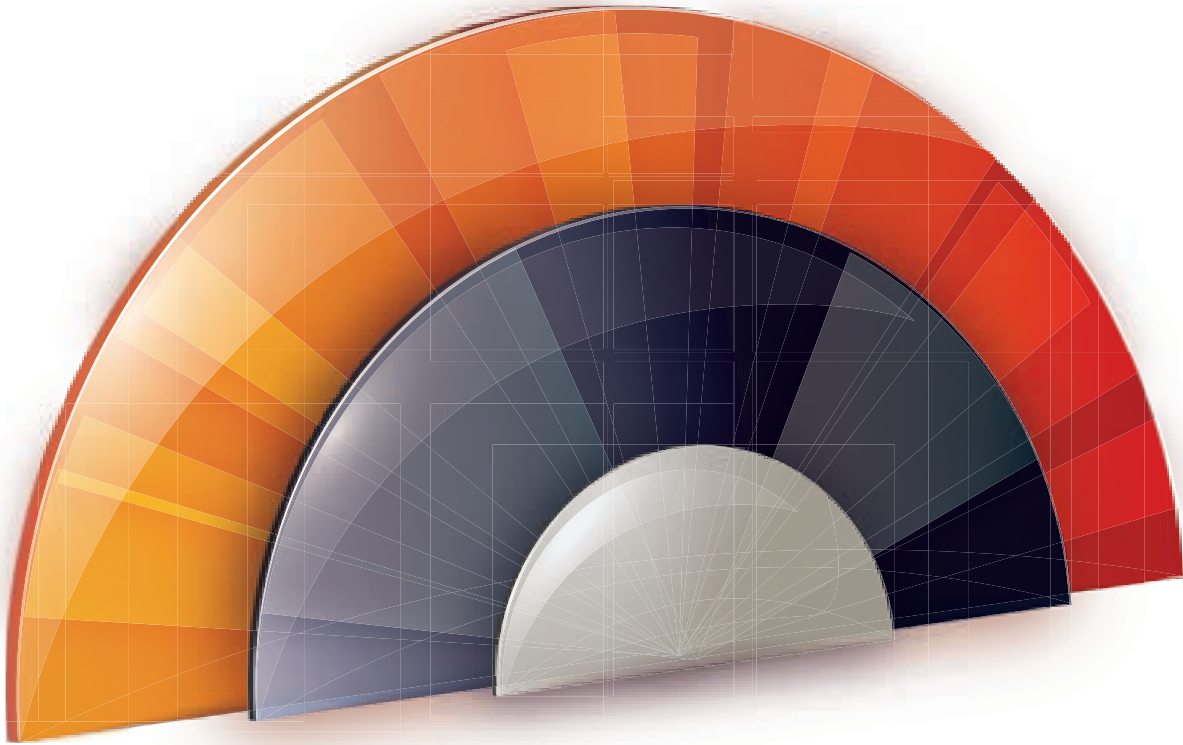
If your question is about optics in general, our optometrists are also available to support you.

Do you want to place your order online?

If you are interested in a standard solution, please visit multilens.com and go to webshop > Standard Order.

If you need an RX solution, please use Custom Order to calculate and place your order in the webshop.

Welcome with your order!



CREATIVE SOLUTIONS

When you have a need – we have a solution

Multilens have a long and well-known tradition of solving complex optical problems. But we also have a long tradition of creating innovative standard solutions, based on deep optical knowledge and experience.

Don't hesitate to contact your local Multilens representative or our central RX support for ideas and help. You can put your trust in us – by now we have 40 years of experience and knowledge in the field of special optics.

Read more at [multilens.com](https://www.multilens.com) 



ML BASIC SOLUTIONS

Our basic solutions are equal to the products that you can find in a normal optical shop. We work closely with our suppliers to ensure that we offer high-quality optical solutions. Compared to mainstream suppliers who are highly specialised in basic solutions, we offer a wider range of possibilities in terms of powers, filters and colours – all premium quality, never compromising on the optics.

ML STANDARD SOLUTIONS

Almost all of our standard solutions are Multilens unique. Some started as creative solutions before they were packaged to benefit more people. Some are combinations between two or more of our basic solutions.

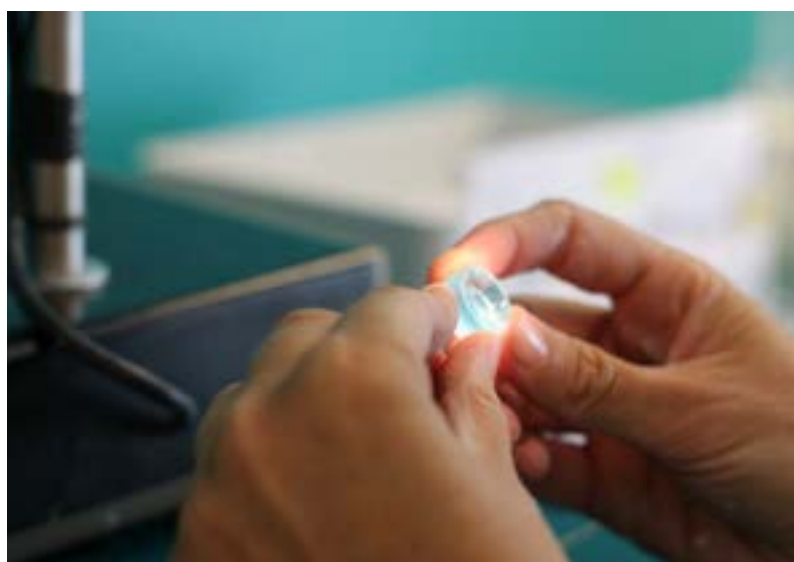
Most of our standard solutions were developed through close collaboration between distributors, customers and Multilens, based on user needs. They all solve complex problems but are easy to fit and order. Curious? Have a look at examples like ML Binova, ML Optio, ML Filters, AMD Comfort and ML Grand Max.

ML CREATIVE SOLUTIONS






Can we do more? Yes, a lot more! When you have a need, we most often have several solutions. But to sort out the best one, we need to know what is most important to you. Do you want your solution to be the thinnest, the most cosmetic, the most functional, the safest, the most cost-effective, or something else?

Our creative solutions are only partly mentioned in this catalogue since they are individually adapted. They are hand-picked combinations from our optical assortment, topped with our experience and devotion.



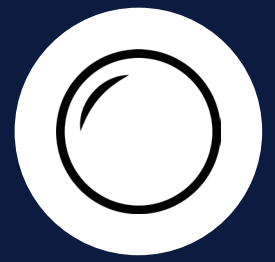


CONTENT

	Lens program	10
	Frames	52
	Filter program	62
	Reading solutions	92
	Low vision aids	100

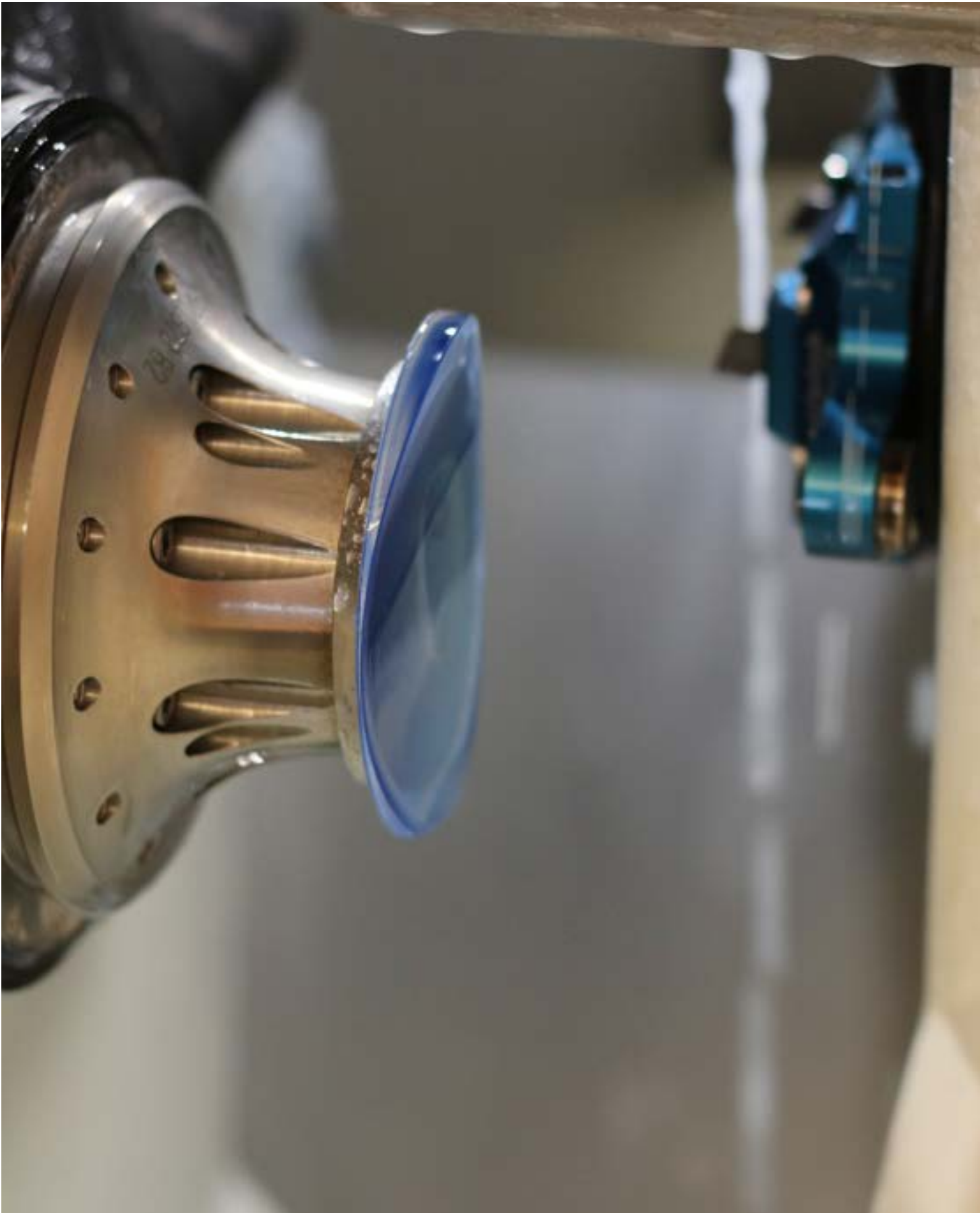






Lens program

Lens program	10
Our optical quality levels	14
Stock lenses	15
Single vision	16
Progressives	20
Bifocals and trifocals	26
ML Optio	30
ML Grand Max	36
Options and add-ons	38
Special grindings	41
Prisms	43
Coatings	45
Polarised and photochromic options	46
ML Filter	48
Fitting, decentration and engravings	51





OUR LENS PROGRAM

Keep pushing our limits

Odd solutions and high powers? Absolutely! But also high-quality standard solutions for all needs. Welcome to our wide range of lenses and add-ons.

It is widely known that Multilens is a creative and reliable provider of special optics. But we also offer a complete lens program that is produced with the latest free-form technology. Our lens program is ranged from basic single vision to high powers and individualised progressive designs, with a wide range of options and add-ons.

If you are uncertain if we can produce the lenses with the parameters you want, please contact us. The answer is probably yes!

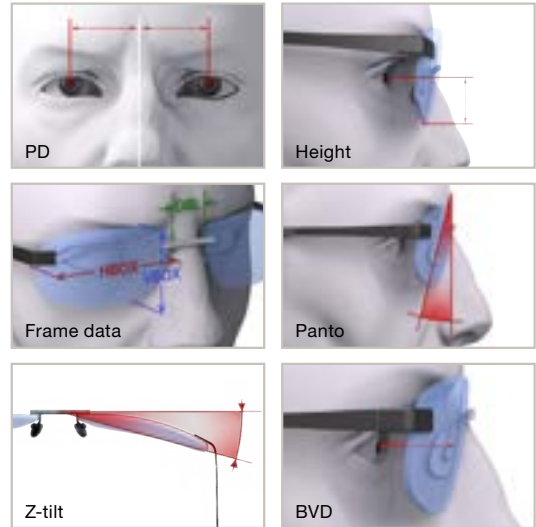
Read more on [multilens.com](https://www.multilens.com)





Our optical quality levels

Our advanced calculation technology has been updated with a new design which means that we can offer you an even more precise solution, providing a maximised visual performance.



ML XACT

Truly personalised optics

Xact is our most advanced lens design.

Xact lenses are produced entirely based on individual parameters and also compensate for unwanted prism effect that can be caused by a curved frame.

The best solution for:

- High powers
- Extensive correction for astigmatism
- Frames that are not of standard dimensions

ML PRO

Optimised in all directions

The Pro design works well for a customer with "normal" parameters.

Pro is based on the same advanced calculation technique as Xact but instead of individual parameters, standard parameters are used for panto, Z-tilt and BVD.

The natural choice for:

- Non-extreme cylinder powers, minus or plus, and frames with normal curvature.

ML EASY

Traditional optics for the basic solutions

Easy is a traditionally calculated design with a spherical back.

Easy is not compensated based on individual or standard parameters so small deviations may occur.

The best option:

- When you need a value solution that is easy to order and manufacture.

INDIVIDUAL PARAMETERS

- PD
- Height
- Box values
- Panto
- Z-tilt
- BVD

INDIVIDUAL PARAMETERS

- PD
- Height
- Box values

STANDARD PARAMETERS

- Panto (6°)
- Z-tilt (4°)
- BVD (13 mm)

No individual or standard parameters. Only refraction and PD.



Our stock lenses

We have a wide range of stock lenses for different purposes.

STOCK EC

We offer some value segment stock lenses with different coating options. We do not store these, so the delivery time is a few days longer. See exact power range in the price list.

STOCK EASY

Stock Easy is our standard stock lenses. They can be coated with our premium coatings and tinted, both with our filter colours and other tints. Please refer to the price list for the exact power and diameter range.

PLANO STOCK LENSES

Our plano stock lenses with different thickness and base curve are aimed for tinting and as mounting lenses for our optical systems.

Plano with base **curve 5** and center thickness **2.2 mm**

Plano with base **curve 6** and center thickness **3.2 mm**

Plano with base **curve 8** and center thickness **2.2 mm** (with prism compensation)

PLANO DRIVEWEAR LENSES

We also offer plano lenses with Drivewear technology. These lenses are both polarised and photochromic, with a base tint of 72 %. Made of Trivex, a highly durable material, they should be edged using the same method as polycarbonate. Additionally, all plano Drivewear lenses come with SunCoat applied to the back surface.



OCCCLUSION LENSES

We have four alternatives for occlusion:

White occlusion – a frosted lens

Cosmetic occlusion – a special occlusion that makes the eye visible behind the lens but still provides a significant occluding effect

Beige occlusion – a frosted lens with beige colour

Black occlusion – a black occlusion

BALANCE LENSES

It is possible to order a balance lens at a reduced cost. Just make a note about the balance lens on the order. This implies that slight deviations from the ordered PD and minor surface imperfections are acceptable.



SINGLE VISION

One of the broadest power ranges on the market

Multilens has a wide selection of Single Vision lenses. With one of the broadest power ranges on the market, we can solve almost any optical challenge. In addition to the possibility of extreme powers, we can produce Single Vision lenses in big diameters with decentration which is beneficial as large frames are often desired today. In the price list, you will find the full range for each product.

Read more at [multilens.com](https://www.multilens.com) 



Single vision – our range

Material type	Lens design	Index	Max Ø	Max possible power				Tintable ²
				Sph	Sph ¹	Cyl	Prism	
CLEAR	Stock EC	1,50	75	+4	-4	-2	0	No
		1,60	70	+4	-6	-2	0	No
	Stock Easy	1,50	75	+4	-4	-2	0	Yes
	SV Easy	1,50	75/105	+10	-60	-30	20	Yes
		1,60	73/103	+12	-60	-30	20	Yes
		1,67	75/105	+12	-60	-30	16	No
		1,74	70/100	+16	-30	-30	19	Yes
	SV Xact/Pro	1,50	75/105	+11	-30	-15	8	Yes
		1,60	73/103	+13	-30	-15	8	Yes
		1,67	75/105	+13	-30	-15	8	No
		1,74	70/100	+18	-30	-15	8	Yes
	Lenti Easy	1,50	68	+20	+6	-15	4	Yes
		1,60	68	+24	+16	-15	4	Yes
	Omega Aspheric	1,50	67	+23	+6	-15	4	Yes
	X-Lenti	1,50	65	+24	+10	-15	0	Yes
	Hyperocular	1,50	65	Available in powers 4X, 5X, 6X, 8X, 10X and 12X				No
NUPOLAR POLARISED	SV Easy	1,50	75/105	+8	-22	-15	10	Yes
		1,60	75/105	+10	-28	-15	12	Yes
		1,67	75/105	+11	-30	-15	12	No
	SV Xact/Pro	1,50	75/105	+9	-20	-15	8	Yes
		1,60	75/105	+11	-24	-15	8	Yes
		1,67	75/105	+12	-24	-15	8	No
TRANSITIONS PHOTOCHROMIC	SV Easy	1,50	70/100	+10	-25	-15	10	Yes
		1,60	73/103	+12	-30	-15	12	Yes
		1,67	73/103	+12	-30	-15	15	No
	SV Xact/Pro	1,50	70/100	+11	-20	-15	8	Yes
		1,60	73/103	+13	-24	-15	8	Yes
		1,67	73/103	+13	-30	-15	8	No
TRANSITIONS DRIVEWEAR	SV Easy	1,50	68/88	+8	-22	-15	10	Yes
	SV Xact/Pro	1,50	68/88	+9	-20	-15	8	Yes

1. Max possible minus power, i.e minus sphere and minus cylinder combined.

2. See possible colourings for each material online.



High power Single Vision lenses

LENTI EASY

Lenticular zone of 40 mm with a spherical design. The total lens diameter is 68 mm.

OMEGA ASPHERIC

Optical zone of 40 mm with a seamless overlay to the carrier. Omega has an aspherical design. The total lens diameter is 67 mm.

X-LENTI

X-Lenti has an optical zone of 35 mm and a spherical design. Because of the small zone, this is a good option for the very high powers. Includes a ML400 filter at the same price as untinted. Has a total diameter of 62 mm.

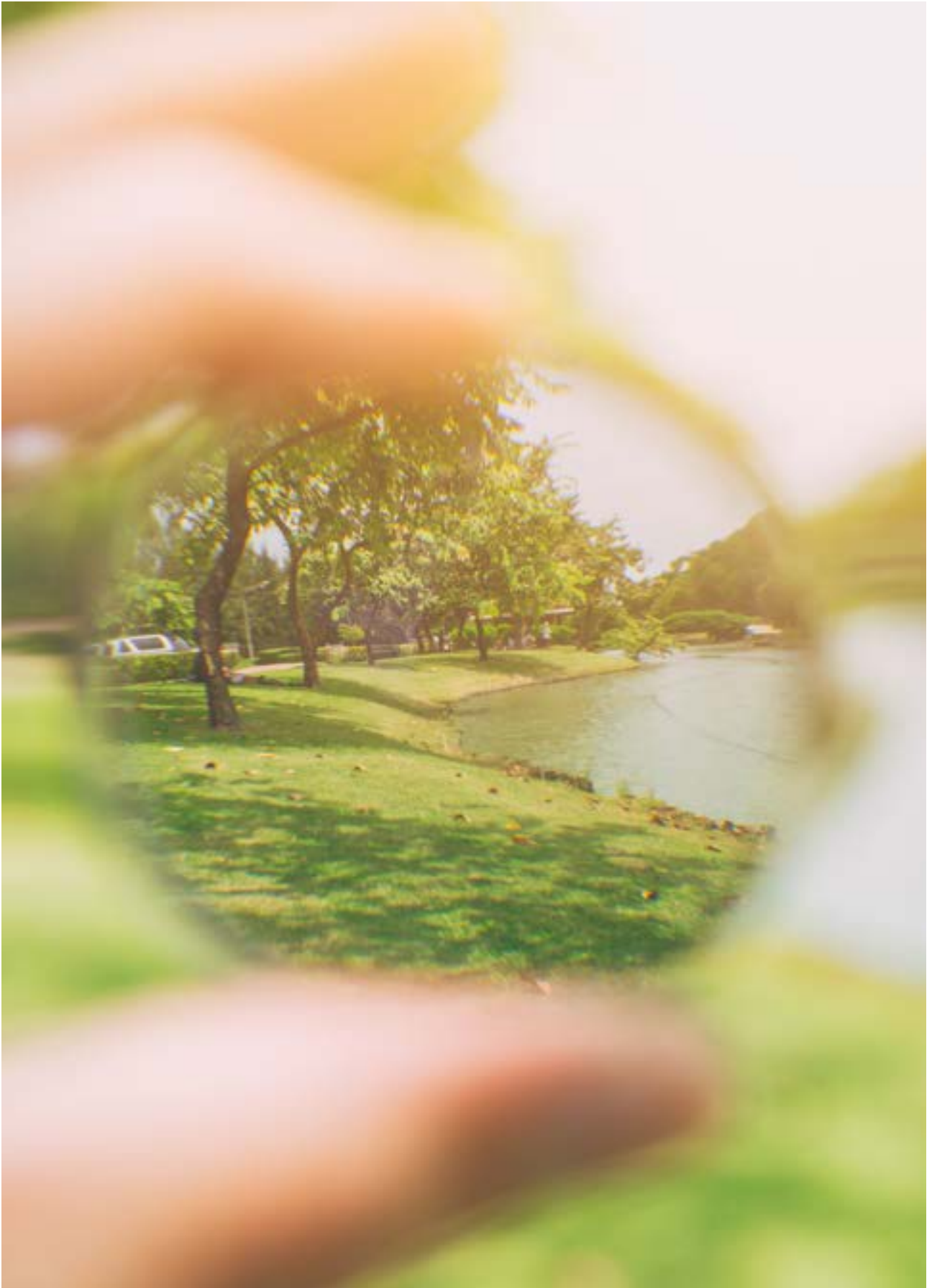


Omega Aspheric



Lenti Easy

SV Easy



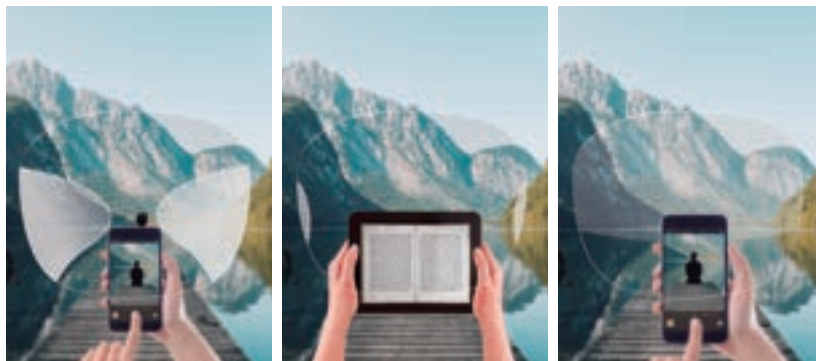


PROGRESSIVES

Never compromise on the optics

Our progressive designs cover high-end solutions based on camber technology combined with our latest back surface technology, conventional progressive lenses for extra high powers or prisms, and various office designs. Regardless of your needs, you never have to compromise on the optics.

Read more at [multilens.com](https://www.multilens.com) 







Progressives – our range

Material type	Lens design	Index	Max Ø	Max possible power					Tintable ³
				Sph ¹	Sph ²	Cyl	Prism	Add	
CLEAR	UniZone CX Xact/ Pro	1,50	75/95	+10	-13	-15	8	0,5-6,0	Yes
		1,60	75/95	+11	-15	-15	8	0,5-6,0	Yes
		1,67	75/95	+12	-16	-15	8	0,5-6,0	No
		1,74	73/93	+13	-18	-15	8	0,5-6,0	No
	UniZone Xact/Pro	1,50	75/105	+11	-15	-15	8	0,75-4,0	Yes
		1,60	73/103	+13	-17	-15	8	0,75-4,0	Yes
		1,67	75/105	+13	-18	-15	8	0,75-4,0	No
		1,74	70/100	+18	-20	-15	8	0,75-4,0	Yes
	UniZone Easy	1,50	75/105	+11	-15	-15	8	0,75-4,0	Yes
		1,60	70/100	+13	-17	-15	8	0,75-4,0	Yes
		1,67	70/100	+13	-18	-15	8	0,75-4,0	No
		1,74	70/100	+16	-20	-15	8	0,75-4,0	Yes
	Nuaco Xact/Pro	1,50	75/105	+10	-8	-8	8	0,5-0,75	Yes
		1,60	73/103	+12	-10	-10	8	0,5-0,75	Yes
		1,67	75/105	+12	-10	-10	8	0,5-0,75	No
		1,74	70/100	+15	-10	-10	8	0,5-0,75	Yes
	Image Easy	1,50	80	+8	-9	-9	12	1,0-3,0	Yes
	UniZone Omega	1,50	67	+18	+8	-10	4	0,75-4,0	Yes
	Meeting Xact/Pro	1,50	75/105	+11	-15	-15	8	0,75-3,5	Yes
		1,60	73/103	+13	-17	-15	8	0,75-3,5	Yes
1,67		75/105	+13	-18	-15	8	0,75-3,5	No	
1,74		70/100	+18	-20	-15	8	0,75-3,5	Yes	
Desktop Xact/Pro	1,50	75/105	+11	-15	-15	8	-0,75--2,25	Yes	
	1,60	73/103	+13	-15	-15	8	-0,75--2,25	Yes	
	1,67	75/105	+13	-15	-15	8	-0,75--2,25	No	
	1,74	70/100	+18	-15	-15	8	-0,75--2,25	Yes	

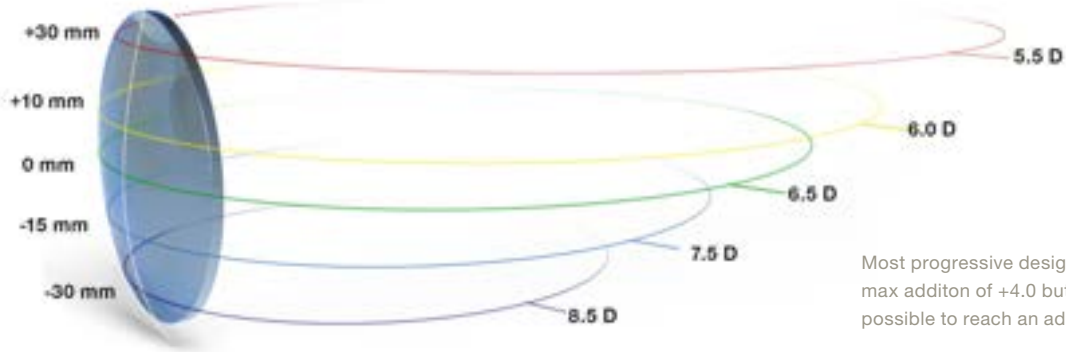


NUPOLAR POLARISED	UniZone CX Xact/ Pro	1,50	75/95	+10	-13	-13	8	0,5-6,0	Yes	
		1,60	75/95	+11	-15	-15	8	0,5-6,0	Yes	
		1,67	75/95	+12	-16	-15	8	0,5-6,0	No	
	UniZone Xact/Pro	1,50	75/105	+8	-13	-13	8	0,75-4,0	Yes	
		1,60	75/105	+11	-14	-14	8	0,75-4,0	Yes	
		1,67	75/105	+12	-16	-15	8	0,75-4,0	No	
	UniZone Easy	1,50	75/105	+8	-13	-13	8	0,75-4,0	Yes	
		1,60	75/105	+11	-14	-14	8	0,75-4,0	Yes	
		1,67	75/105	+12	-16	-15	8	0,75-4,0	No	
	Nuaco Xact/Pro	1,50	73/103	+8	-8	-8	8	0,5-0,75	Yes	
		1,60	73/103	+10	-10	-10	8	0,5-0,75	Yes	
		1,67	73/103	+11	-10	-10	8	0,5-0,75	No	
	Image Easy	1,50	80	+8	-9	-9	12	1,0-3,0	Yes	
	TRANSITIONS PHOTOCHROMIC	UniZone CX Xact/ Pro	1,50	75/95	+8	-13	-13	8	0,5-6,0	Yes
			1,60	75/95	+11	-15	-15	8	0,5-6,0	Yes
1,67			75/95	+12	-16	-15	8	0,5-6,0	No	
UniZone Xact/Pro		1,50	70/100	+8	-13	-13	8	0,75-4,0	Yes	
		1,60	73/103	+11	-15	-15	8	0,75-4,0	Yes	
		1,67	73/103	+12	-16	-15	8	0,75-4,0	No	
UniZone Easy		1,50	70/100	+8	-13	-13	8	0,75-4,0	Yes	
		1,60	73/103	+11	-14	-14	8	0,75-4,0	Yes	
		1,67	73/103	+12	-16	-15	8	0,75-4,0	No	
Nuaco Xact/Pro		1,50	70/100	+10	-8	-8	8	0,5-0,75	Yes	
		1,60	73/103	+12	-10	-10	8	0,5-0,75	Yes	
		1,67	73/103	+12	-10	-10	8	0,5-0,75	No	
Image Easy		1,50	80	+8	-9	-9	12	1,0-3,0	Yes	
TRANSITIONS DRIVEWEAR		UniZone Xact/Pro	1,50	68/88	+8	-13	-13	8	0,75-4,0	Yes
		UniZone Easy	1,50	68/88	+8	-13	-13	8	0,75-4,0	Yes

1. Max possible plus power, i.e plus sphere and addition combined. For UniZone CX max possible plus power for addition 3 or lower (for higher additions than 3, the max sphere is reduced).

2. Max possible minus power, i.e minus sphere and minus cylinder combined.

3. See possible colourings for each material online.

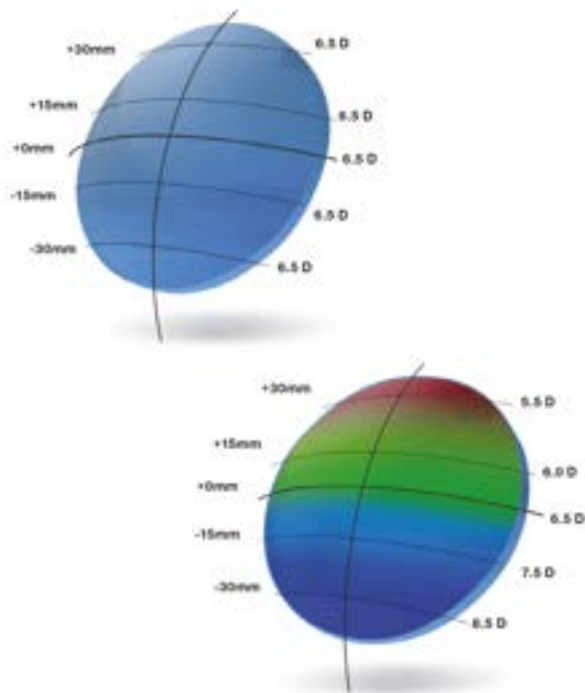


Most progressive designs on the market has a max addition of +4.0 but with UniZone CX it's possible to reach an addition as high as +6.0

UniZone – allround progressives

UNIZONE CX XACT/PRO

The most sophisticated progressive design from Multilens is called UniZone CX and is based on Camber Technology. Specially designed blanks with a unique front surface curvature, are being used. Combined with our latest back surface digital design, the surfaces work together to accommodate an expanded RX range – a true premium solution!



UNIZONE XACT

Highly individualised progressive design, created with high-end free-form technology.

The powers are compensated with regards to the curvature of the frame which is extra important if the frame is more curved/ tilted than a standard frame. This design is now also updated with horizontal prism compensation.

When ordering UniZone Xact, the following parameters should be specified: PD, height, box values, panto, Z-tilt and BVD (see page 14 for explanation of measures).

UNIZONE PRO

UniZone Pro is based on the same technology as UniZone Xact but with fixed panto, Z-tilt and BVD. These parameters offer a standard compensation of the powers when the frame is tilted.

The best choice at more normal values for spherical minus and plus powers, cylinder and curvature of the frame.

UNIZONE EASY

A free-form form progressive lens with a good balance between distance and near.

The blank with it's unique design often makes it possible to produce lenses with fater base curves. This is often desirable for hyperopic prescriptions.



High power progressives

IMAGE EASY

A conventional front side progressive lens with a good balance between distance, intermediate and near. Suitable for high powers, high prisms and slab-of etc. Index 1,5.

UNIZONE OMEGA

A multifocal lens for high plus powers with classic back surface design and an Omega front surface with a zone of 40 mm. A good balance between distance, intermediate and near.

Light progressives

NUACO

Multilens anti-fatigue design Nuaco has a large distance field that softly changes to an addition of 0.50 or 0.75 to relax the accommodation. The perfect lens for the young student who needs

relaxation in the accommodation or the young presbyope who is not ready for full progressive lenses.

Available in Xact and Pro.

Office progressives

DESKTOP

Desktop is a progressive design adapted for screen and chores up close. The design is available in degenerations from 0.75 to 2.25 in 0.25 increments. The degeneration is about 65 % in the fitting cross. Mounted with distance PD at pupil height.

Available in Xact and Pro.

MEETING

Meeting is a lens design that covers all needs in a modern office environment with priority on intermediate distances. Full distance power is found high up in the lens. In the fitting cross, the degeneration is about 25 %. Powers and fitting height can be adjusted based on the customer's needs and office environment.

Available in Xact and Pro.



BIFOCALS AND TRIFOCALS

Reliable solutions for specific needs

In some cases, bifocal or trifocal spectacles are the preferred choice. A marked reading section makes it easier to find focus for near distance, and bifocals often provide a wider power range than progressives. Sometimes it is the only alternative for multiple powers in the same lens.

Read more at [multilens.com](https://www.multilens.com) 



Material type	Lens design	Index	Max Ø	Max possible power					Tintable ²
				Sph	Sph ¹	Cyl	Prism	Add	
CLEAR	S28 Easy	1,50	80	+8	-23	-15	13	0,75-6,0	Yes
		1,60	75	+8	-30	-15	11	1,0-3,0	Yes
	S28 Xact/Pro	1,50	80	+8	-23	-15	8	0,75-6,0	Yes
		1,60	75	+8	-23	-15	8	1,0-3,0	Yes
	C28 Easy	1,50	73	+8	-23	-15	19	1,0-4,0	Yes
		1,60	75	+8	-28	-15	12	1,0-4,5	Yes
	C28 Xact/Pro	1,50	73	+9	-23	-15	8	1,0-4,0	Yes
		1,60	75	+8	-22	-15	8	1,0-4,5	Yes
	S35 Easy	1,50	75	+8	-23	-15	14	0,75-6,0	Yes
	S35 Xact/Pro	1,50	75	+9	-23	-15	8	0,75-6,0	Yes
	S45 Easy	1,50	80	+8	-20	-15	12	0,75-3,0	Yes
	S45 Xact/Pro	1,50	80	+9	-15	-15	8	0,75-3,0	Yes
	RS28 Xact/Pro	1,50	75/105	+11	-10	-10	8	0,75-4,0	Yes
		1,60	73/103	+13	-11	-10	8	0,75-4,0	Yes
		1,67	75/105	+13	-12	-10	8	0,75-4,0	No
		1,74	70/100	+18	-16	-10	8	0,75-4,0	Yes
	S28 High add	1,50	75	+6	-15	-15	8	6,25-10,0	Yes
	RS28 Xact/Pro								
	RS28 Lenti Pro	1,50	68	+18	+8	-10	4	0,75-4,0	Yes
	S728 Easy	1,50	80	+8	-15	-15	8	1,50-4,0	Yes
S728 Xact/Pro	1,50	80	+8	-20	-15	10	1,50-4,0	Yes	
NUPOLAR POLARISED	S28 Easy	1,50	75	+8	-23	-15	6	0,75-4,0	Yes
	S28 Xact/Pro	1,50	75	+9	-20	-15	6	0,75-4,0	Yes
	RS28 Xact/Pro	1,50	75/105	+8	-8	-8	8	0,75-4,0	Yes
		1,60	75/105	+11	-10	-10	8	0,75-4,0	Yes
1,67		75/105	+12	-12	-10	8	0,75-4,0	No	
TRANSITIONS PHOTOCHROMIC	S28 Easy	1,50	75	+8	-23	-15	9	1,0-4,0	Yes
	S28 Xact/Pro	1,50	75	+9	-20	-15	8	1,0-4,0	Yes
	C28 Easy	1,50	70	+7+	-21	-15	11	1,0-3,5	Yes
	C28 Xact/Pro	1,50	70	+8	-21	-15	8	1,0-3,5	Yes
	RS28 Xact/Pro	1,50	70/100	+8	-7	-7	8	0,75-4,0	Yes
		1,60	73/103	+11	-11	-10	8	0,75-4,0	Yes
		1,67	73/103	+12	-12	-10	8	0,75-4,0	No
	S728 Easy	1,50	78	+8	-15	-15	8	1,50-4,0	Yes
	S728 Xact/Pro	1,50	78	+8	-20	-15	10	1,50-4,0	Yes
TRANSITIONS DRIVEWEAR	RS28 Xact/Pro	1,50	68/88	+8	-8	-8	8	0,75-4,0	Yes

1. Max possible minus power, i.e minus sphere and minus cylinder combined.
2. See possible colourings for each material online.



Bifocals

RS28 | FREE-FORM

This lens has an invisible transition to addition power, which makes it more aesthetically pleasing. It is available in all indexes and with polarising or photochromic effect. RS28 is ordered with distance PD and segment height, and is available from +0.75 to +4.0.

S28 AND C28 | STANDARD

These lenses are available in addition up to +4.0. The near part consists of a classic segment.

S28 Xact and C28 Xact have fully optimised optics in all directions due to calculations based on frame parameters.

Bifocals – high addition

S28 | HIGH ADD

Bifocal design with addition up to +6.0 in steps of 0.5. The width of the segment is 28 mm.

Addition: 4.5-6.0

S35 | HIGH ADD

Bifocal lens with a wider segment. Addition available up to +6.0 in steps of 0.5. The width of the segment is 35 mm.

Addition: 4.5-6.0

Bifocals – high power

RS28 LENTI | FREE-FORM

The RS28 Lenti has an invisible transition to the near part and is used to achieve high plus powers in bifocal lenses. RS28 Lenti is available in sphere powers up to +18.0.

A 40 mm lens has a 28 mm segment. The lens is ordered with distance PD and segment height.

Addition: 0.75-4.0

Trifocals

S728

This trifocal design is available in all optical levels and in addition up to +4.0. The middle segment has 50 % of the near addition.

Tailor-made solutions

For even greater freedom of choice, you can customise a bifocal or trifocal solution with ML Optio. There are great opportunities to vary the number and placement of segments, powers and prisms (see page 30).





Upper segment lenses

In some hobbies or professions where you are looking upward to see details, there might be a need for a reading segment in the upper part of the lens. A car mechanic or an electrician could benefit from this type of solution.

The easiest method is to fit a normal bifocal lens upside down. This can also be done with a progressive design.

You can also choose an ML Optio solution which almost gives unlimited possibilities. For example, you can include a convergence prism in the upper segment, to reduce eye strain and increase comfort.

Upside down bifocals

US28 | UPPER SEGMENT

US28 is available in all optical levels and is combined with a progressive lower part.

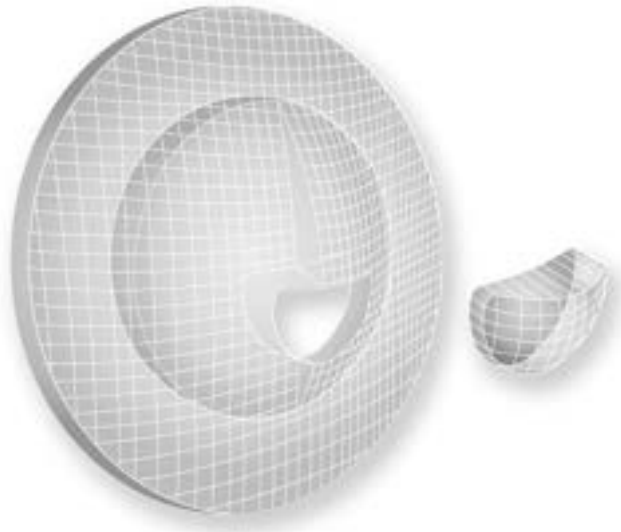
The addition for the upper segment and the lower part is ordered separately and is not affected by each other. This means there are many different combinations of additions possible.

The distance between the upper part and the fitting cross (pupil height) is 7 mm as standard but can be adjusted when needed.

DD28 | UPPER AND LOWER SEGMENT

The DD28 is available in all optical levels. The upper segment can be ordered with 2/3 of the lower segment's addition or the same addition. The distance between the segments is 14 mm.

The DD28 lens is symmetrical so it can be mounted upside down to get the lower addition in the lower segment if needed.



ML OPTIO

Tailored for special demands

Standard spectacles may not always be the optimal choice for competitive target shooters, fighter pilots or conductors. Why, for example, do bifocal spectacles always have a smaller area for near vision and a larger area for far vision? Why not the other way around?

”Optio” is a Latin word that means freedom of choice. The design of our special lens for creative solutions is essentially only limited by imagination. Different parts are milled into a carrier lens to produce a tailor-made, exact optical solution. There are vast possibilities for varying powers and prisms in different parts, and the placing of segments.

If this wide freedom of choice makes you unsure of the result, it is good to know that we offer a user warranty – so keep being creative!

Read more at [multilens.com](https://www.multilens.com) 



Segment design

NORMAL SEGMENT

Most common segment shapes.

LOW SEGMENT

Suitable to avoid image jumping.

HIGH SEGMENT

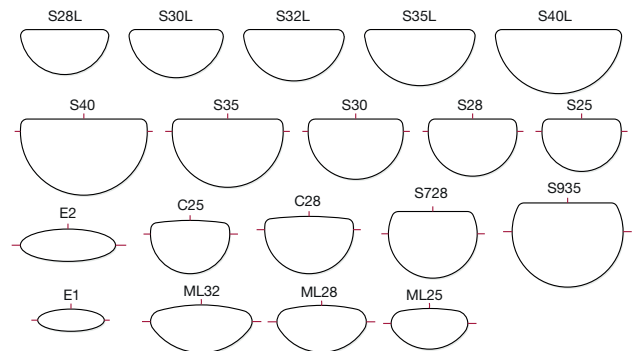
Suitable for trifocal solutions and large vertical visual fields.

ELLIPSE SEGMENT

Suitable when using distance power below the near segment, for example, on stairs or a boat deck. Also, ideal for upper segments.

ML SEGMENT

A more exclusive design with the same advantages as the ellipse segment.

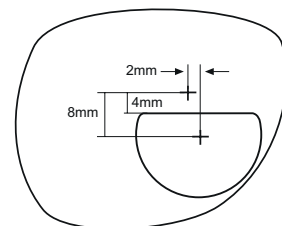
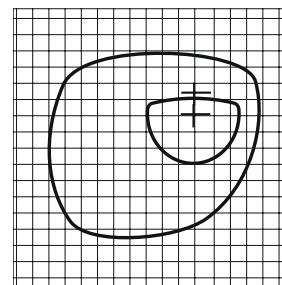


Drawing

If the segment, optical centre or prism requires special positioning, it will help us if you include a simple sketch of the lens indicating your precise requirements.

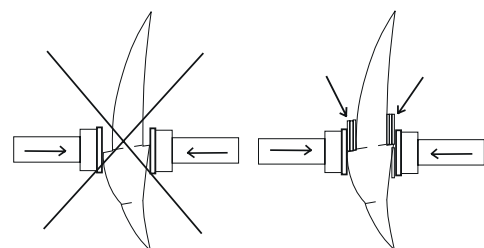
Positioning the optical centres

One of the advantages of the ML Optio lens, compared to a normal bifocal or trifocal, is that the optical centre is precisely positioned even in the reading segments. This can be compared to a standard lens where the position of the reading centre depends on the lens power and cylinder. If no special request is made for the positioning of the optical centre, it will be positioned as illustrated.



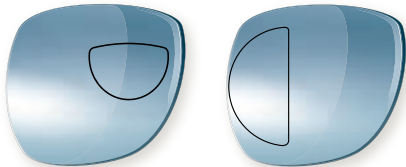
Edging instructions

If you decide to do the edging of the ML Optio yourself, a plastic stick with double-sided adhesive tape will be delivered with the lens. You should use this to build up and even out the different levels of the lens. It is extremely important to distribute the pressure from the edging machine evenly on the lens. If in doubt, let us do the job – and take the risk. (The warranty is not valid for broken lenses in this situation).



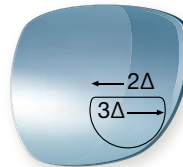


Possibilities and variations



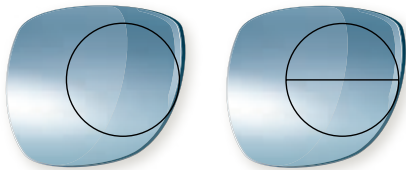
SPECIAL PLACEMENT OF SEGMENTS

ML Optio offers the option of completely specifying segment placement.



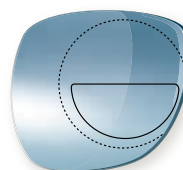
DIFFERENT PRISMS IN DIFFERENT SEGMENTS

In ML Optio, it is possible to have different prisms in different segments. For example, prism is base-out only in far distances or base-in only in near distances.



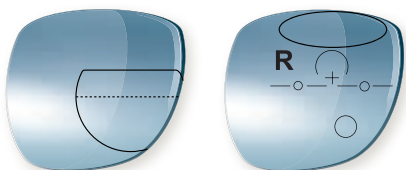
SMALLER LENTICULAR – MINI LENTI

With ML Optio you can obtain a lenticular that is adapted to the frame (e.g. children's frames). Single vision or bifocal.



STRONG ADDITION

ML Optio offers strong addition options. Unwanted image jumping can be avoided by using a low segment, placing the optical center for near and distance together.



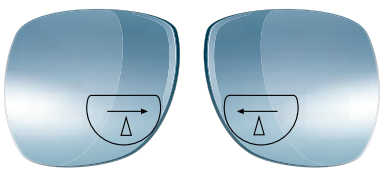
EXTRA SEGMENT COMBINED WITH MULTIFOCAL LENSES

ML Optio can be combined with any type of lens.



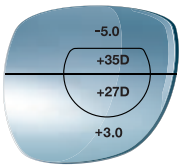


Examples of creative solutions



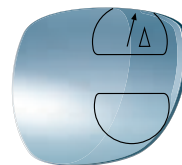
RELIEVING PRISM

When addition exceeds five dioptres, an adjusted prism base-in needs to be introduced as a convergence aid for binocular vision.



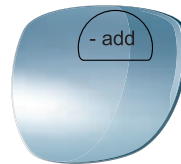
ADVANCED SOLUTIONS FOR LOW VISION PATIENTS

Distance orientation	-5.0 D
Small text – addition	+40 D
Headlines – addition	+32 D
Near orientation – addition	+8.0 D



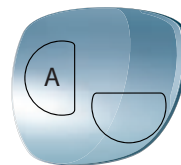
LENS FOR A CRAFTSMAN

There is a prism base-up in the upper segment, which will prevent neck problems.



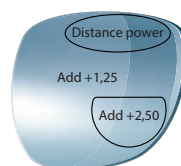
CONDUCTOR/PILOT LENS

Where a smaller field of vision is required for far distances and a very large field is required for sheet music, cockpit controls etc at close distance.



SHOOTING LENS

Lens made for sport shooters or hunters. The segment is positioned so the shooter can aim through the sight and see the target.



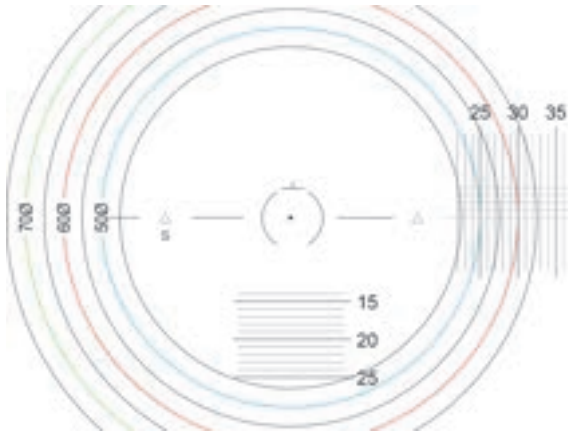
OFFICE LENS

A lens with the largest area adapted for the computer screen, but with a small addition for reading and a small segment in the top for distance viewing.

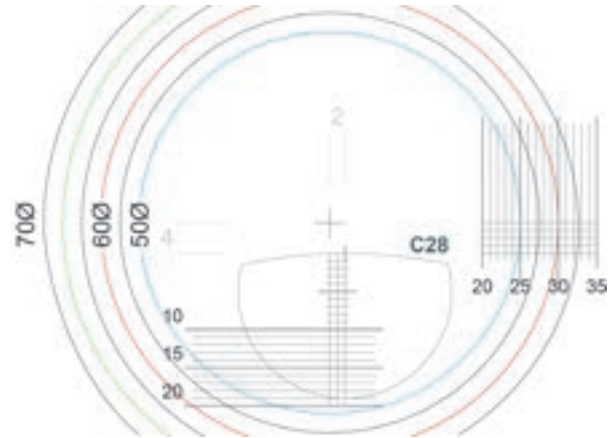


Lens drawings

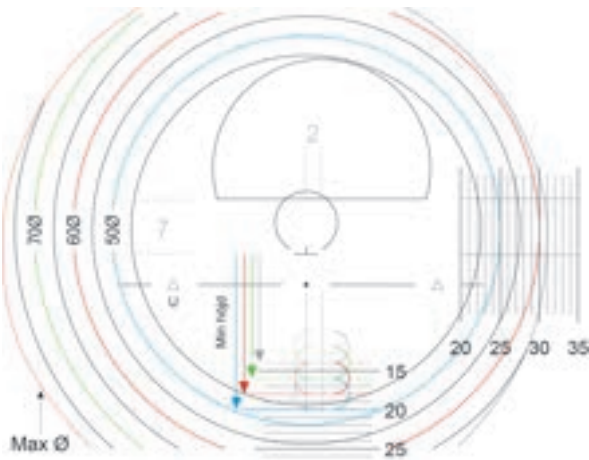
SV XACT



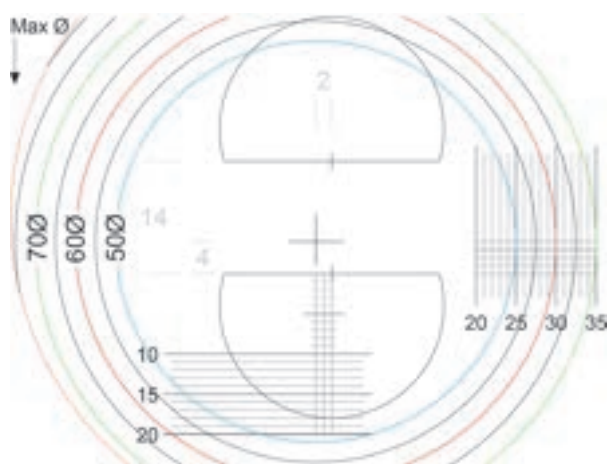
C28 OPTIO



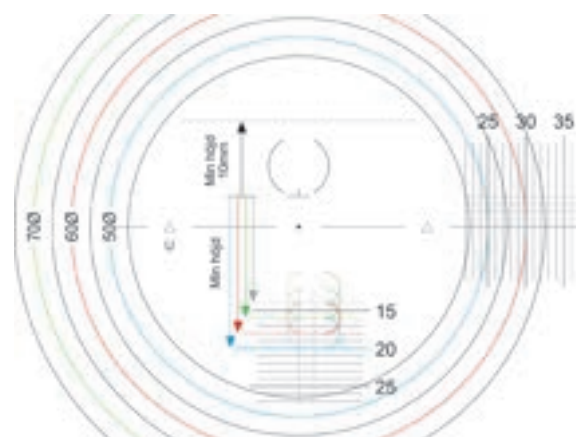
US28 XACT



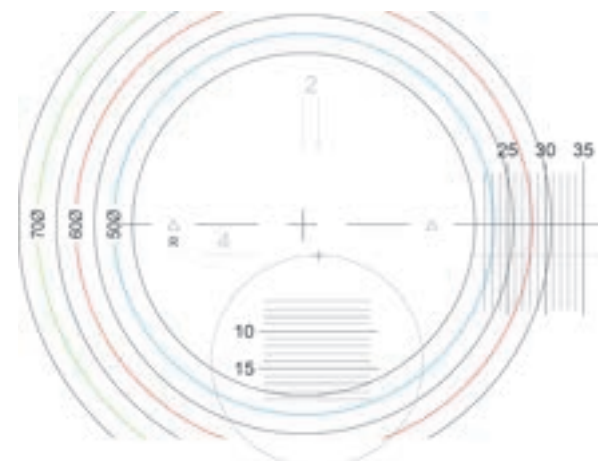
DD28



UNIZONE XACT

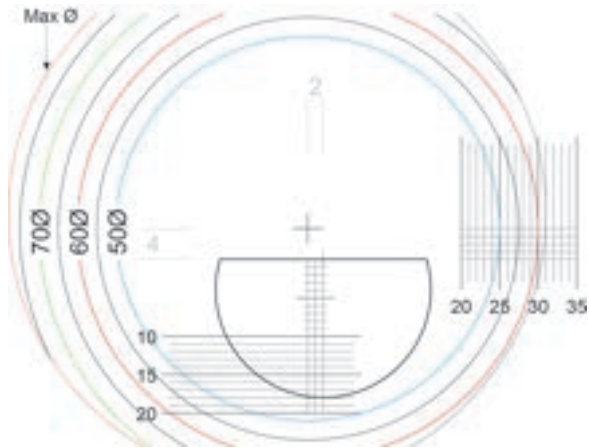


RS28 XACT

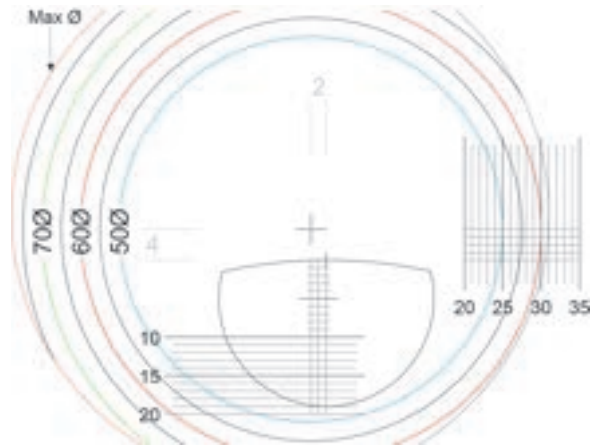




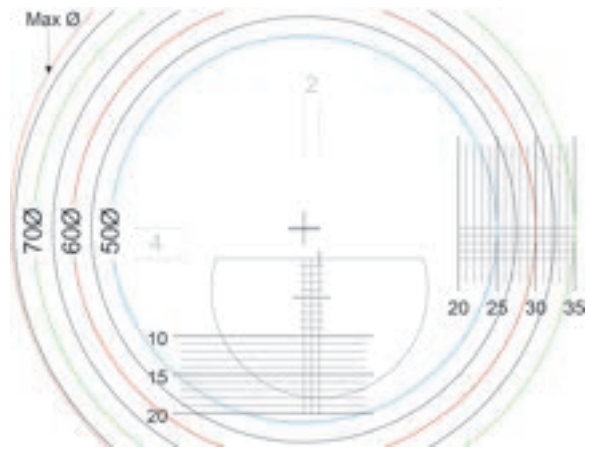
S28



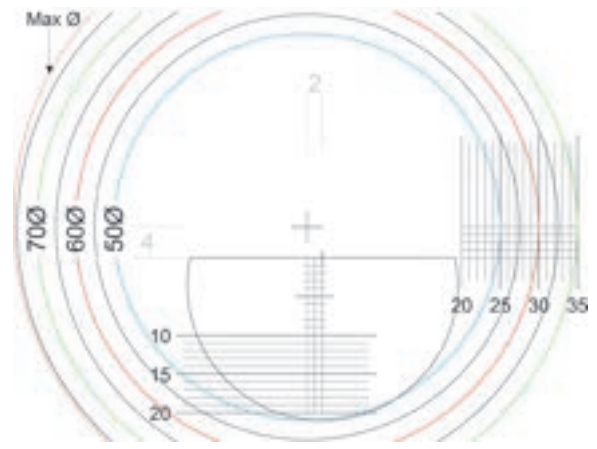
C28



S28 HIGH ADD



S35 HIGH ADD



RS28 LENTI XACT

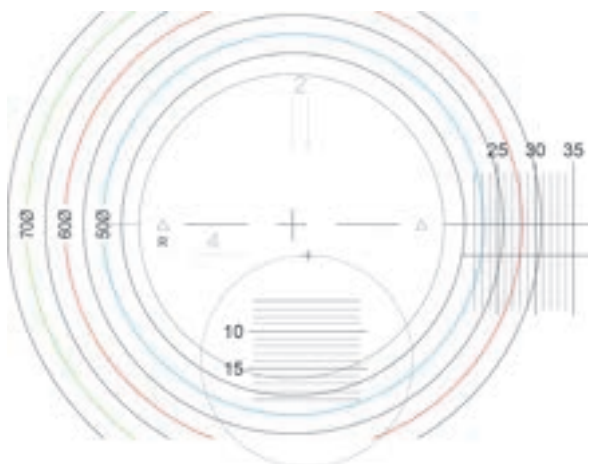
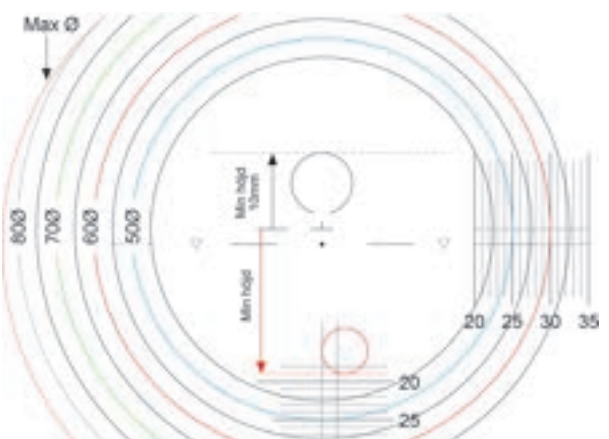


IMAGE EASY





ML GRAND MAX

High level of magnification – preserved visual field

ML Grand Max offers an image magnification of 14 % and can be a life-changer for some people. In some markets, this innovation can determine the possibility of receiving a driving license (note that there are different requirements of the visual field in different countries).

The ML Grand Max is composed of two Grand lenses with 7 % magnification each. The assembly of these two lenses creates a lens with 14 % magnification.

A pilot study in Israel showed that this level of magnification could help the patient to see two rows more on the test board. In the Israeli clinic, a number of patients have been helped by using ML Grand Max, which has been evident both in test results and patient satisfaction.

Advantages with ML Grand Max

This solution gives a significant increase in magnification while maintaining an almost full visual field. The optical properties allow eccentric viewing and increase visual acuity so you can keep or obtain a driving license in some markets (local regulations must be respected).

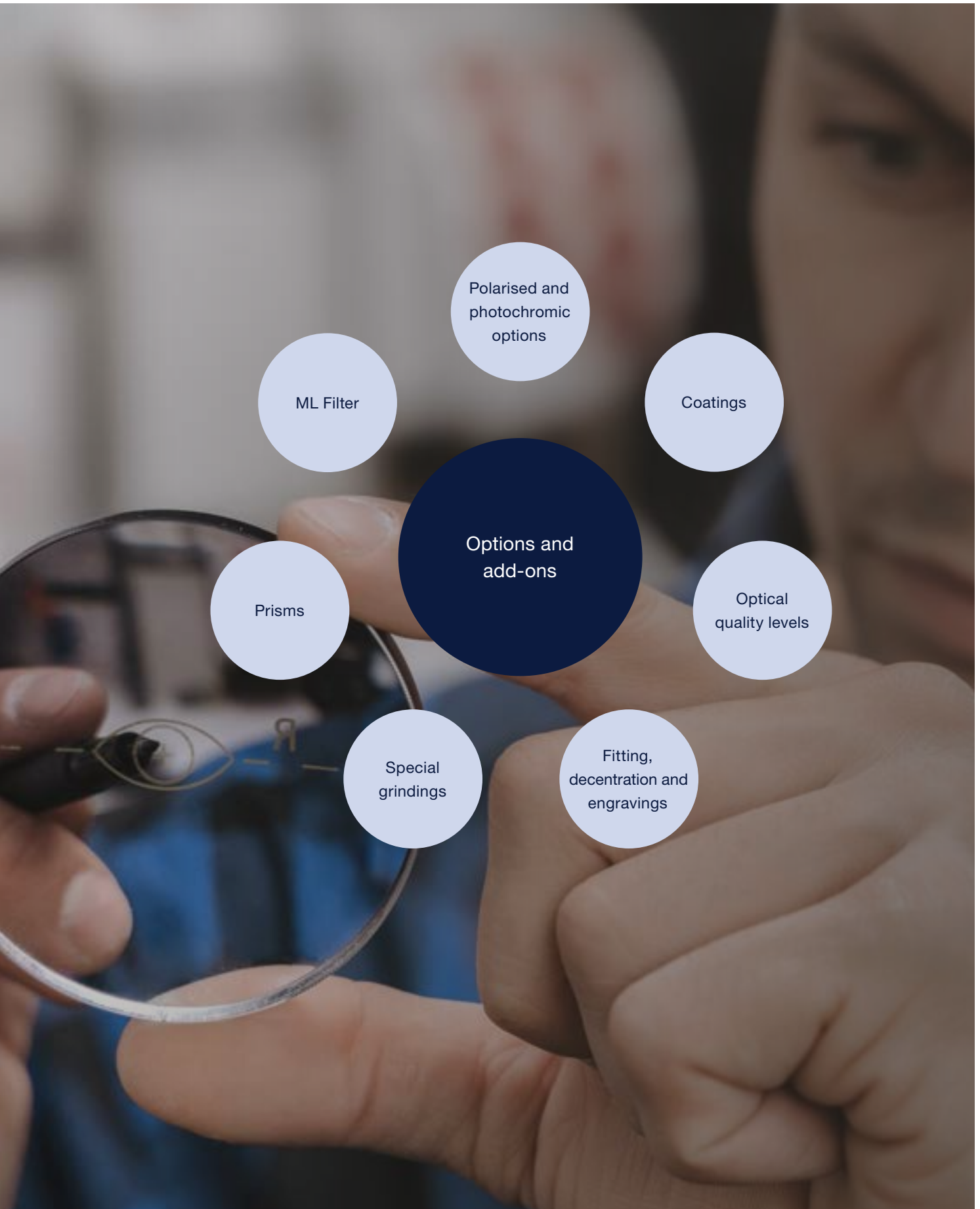
Product facts

- 14 % magnification available with or without ML C1 filter.
- Available in SunGuard 1, Black and Hazelnut (limited options of frames due to the heavy weight of the solution and complex production process).
- Always Prima+ coating
- ML Grand Max flirp available (art no 44032).
- Power range: Sphere -2.0* to +4.0 cyl -2.0 (no prisms possible).
- An adjustable silicone cord is part of the solution.
- Delivered with side shields in the same colour as the frame (Black or Hazelnut), but Light grey or Dark grey can be ordered additionally.

*Max possible minus power, i.e. minus sphere and minus cylinder combined.









POSSIBLE OPTIONS AND ADD-ONS

Optimise your lens solution

Optimising your lens solution offers numerous ways to enhance the visual experience and support eye health.

In addition to choosing the optical quality level (Xact, Pro, or Easy), you can explore options such as adding filters, polarising and photochromic features, as well as special grindings and advanced coatings for glare reduction and scratch prevention.

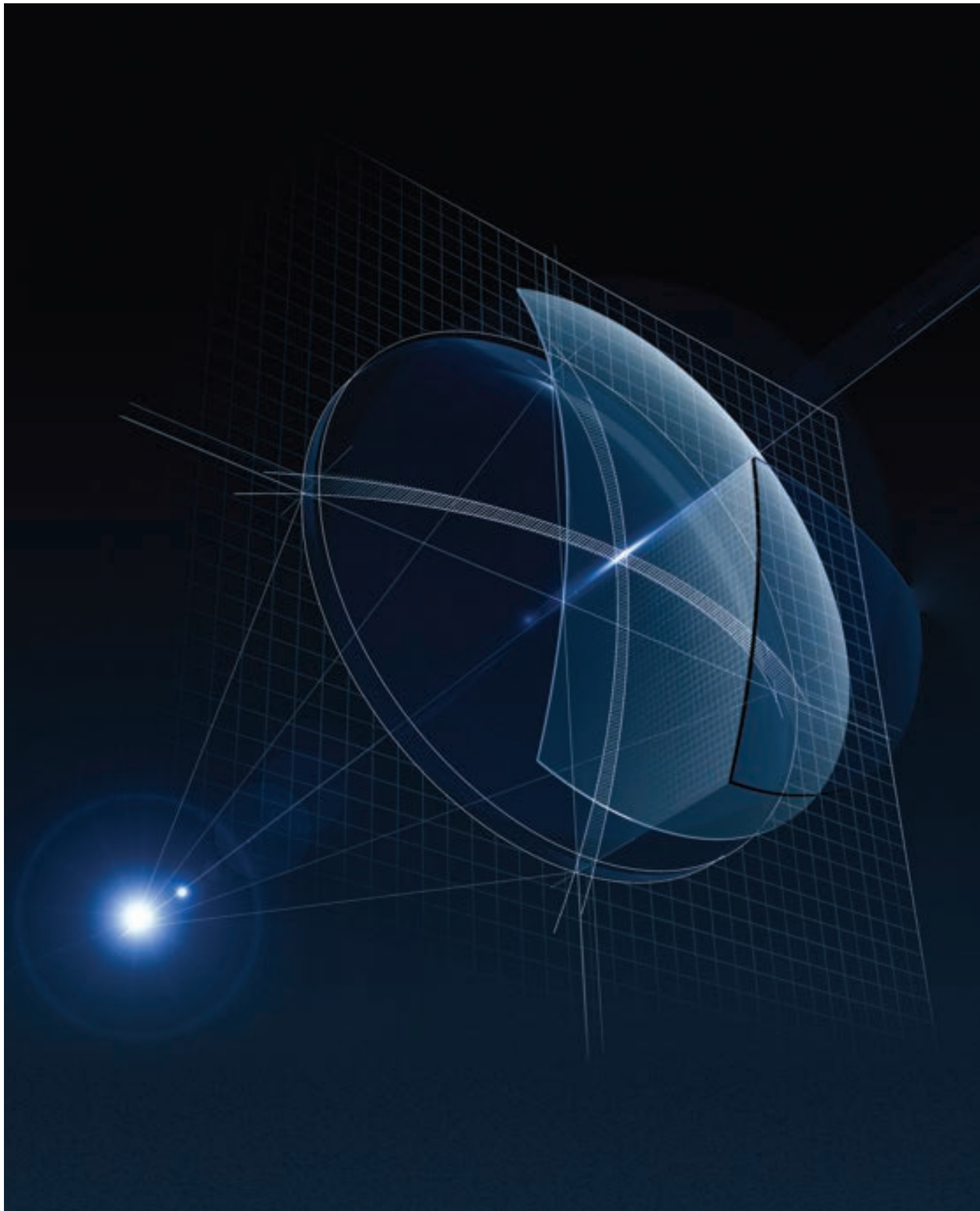
These optimisations can contribute to improved visual clarity, enhanced contrast in diverse lighting conditions, and decreased eye fatigue. Additionally, they can provide increased user comfort and adaptability to different lifestyles and activities.

Read more at multilens.com 



LENS PROGRAM

POSSIBLE OPTIONS AND ADD-ONS





Special Grindings

To achieve a functional, aesthetically pleasing result, special grinding is sometimes needed. Multilens specialises in creating unique lens solutions for people with low vision and other visual problems.



MYOSOFT

Edge reduction for minus lenses with a soft overlap from optical zone to carrier. The optical zone will be adjusted according to power and frame shape.

Recommended for: High minus powers or minus powers in combination with a big or curved frame.



HYPERSOFT

Thickness reduction for plus lenses with a soft overlap from optical zone to carrier. The optical zone will be adjusted according to power and frame shape.

Recommended for: Plus powers approximate +3 to +6 in combination with a big frame.



MYOLENTI

Edge reduction for minus lenses with a sharp overlap from the optical zone to the convex carrier. The optical zone will be adjusted according to power and frame shape.

Recommended for: Minus powers up to -30.



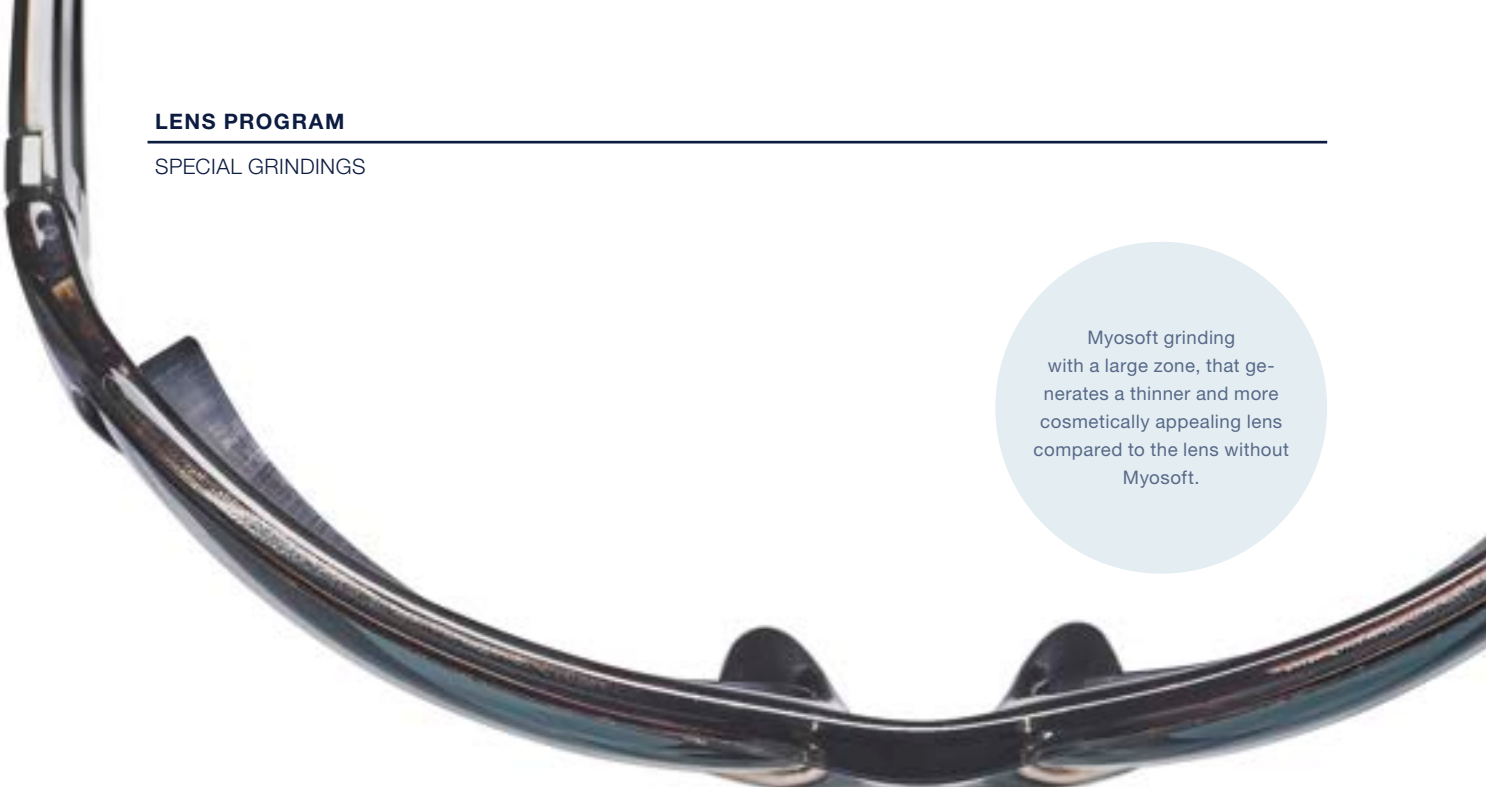
MYOLENTI DUO

Edge reduction for minus lenses with a sharp overlap from the optical zone to the convex carrier. Myolenti Duo has optical zones on both the back and front of the lens.

Recommended for: Minus powers more than -30.

LENS PROGRAM

SPECIAL GRINDINGS



Myosoft grinding with a large zone, that generates a thinner and more cosmetically appealing lens compared to the lens without Myosoft.



COMBI CYLINDER

Optimisation of lenses with a high cylinder. The cylinder power is divided into both sides of the lens. Gives a higher optical quality and better aesthetics.

Recommended for: A must for cylinder power higher than -15.



GRAND

An image magnifier of 1 to 9 %. To achieve a magnification, the lens is made thicker and more curved compared to a standard lens.

Recommended for: Balancing aniseikonia and for AMD patients.



BICONVEX

A lens with convex curvature on both sides, designed to accommodate high plus powers.

Recommended for: Enables an extended power range for plus powers. However, it is important to note that this may result in a reduction in optical quality.



SLAB-OFF

Prismatic grinding is used to balance anisometropia. Slab-off is applied only to half of the lens. In general, the lower part of the lens with most minus/least plus gets a base-up prism.

Recommended for: Balancing anisometropia.



PRISMS

Help your customers to a precise and relaxed vision

COMPENSATING PRISMS

You always do a careful examination to define the exact refraction and provide your client with the best possible visual acuity. But when the lenses are placed in a frame, the perceived vision can differ from the test, depending on the inclination and curvature of the frame, as well as the vertex distance to the glass.

We can adjust the grinding based on the customer's measures and the frame's parameters – both finetuning the powers and compensating for prism effects. This type of small prism compensation is now standard in our updated Xact design.

CORRECTIONAL PRISMS

In other cases, your customer's might need a prism solution due to an eye condition such as Strabismus, or other muscular problems, to help correct the eye alignment.

COMFORT PRISMS

Many people would benefit from relieving comfort prisms that help the convergence at near distance, providing a more relaxed reading experience. Such prisms are standard in the ML Binova assortment.

Multilens has a long experience with advanced prisms, and we are happy to guide you if you need help calculating your solution.







Coatings

Enhance the durability, performance and appearance of the lenses by adding a coating. Our range covers hard coat, anti-reflective coating and mirror, but to further improve the performance you might consider adding an ML Filter, polarisation or a photochromic effect (see next page).

ML PRIMA+

ML Prima+ is an anti-reflection coating based on the very latest coating technology, where all parameters have been upgraded. The coating has an antistatic layer that significantly reduces dust and spots, and a satin layer which provides a smooth surface that is very easy to clean.

ML PRIMA SUN

A coating designed for sunglasses. Both front and back surface has ML Dura to provide the best scratch resistance. The back surface has an ML Prima+ coating to increase comfort and reduce annoying reflexes on the backside of the lens.

ML DURA

Our hard coat treatment for improved scratch resistance. Both sides of the lens are treated.

ML MIRROR

A mirror coating in three different colours; gold, silver and blue. Includes hard coating, sun coating and a mirror coating on the front of the lens. For the best mirror effect, the colour cannot be too light. We recommend ML Mirror on top of at least 50 % colour.

The reflected light for each colour is:

Mirror Blue = 25 %

Mirror Silver = 20 %

Mirror Gold = 30 %

UV PROTECTION

Our high index materials (1,60, 1,67 and 1,74) always have full UV protection. For the 1,5 index, it is possible to add this feature.

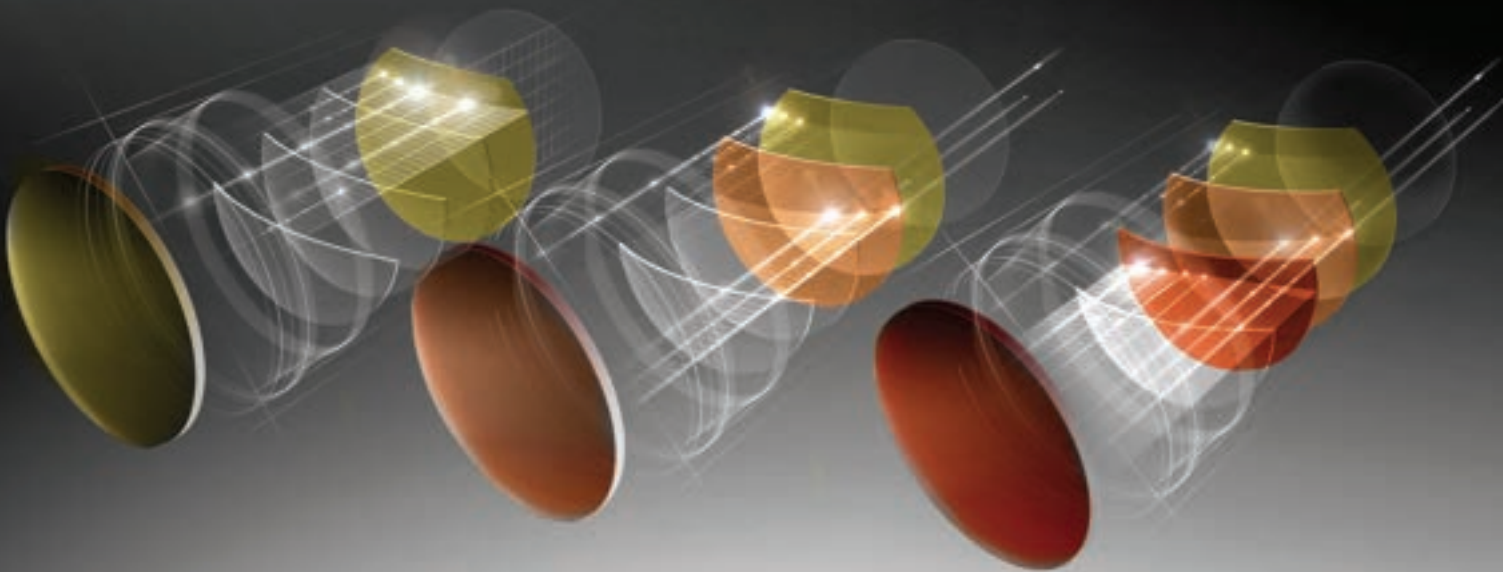
UV block is always included in our filter colours but for other colours, it needs to be added. With UV block, 100 % of the light up to 390 nm is absorbed and 97 % of all light up to 400 nm.





Our polarised and photochromic options

We offer the latest technology for polarisation and photochromic effects. The NuPolar lens provides an efficient polarising film, thin polarised lenses and the widest availability on the market. Transitions – our photochromic lenses – are darker outdoors and return to clear faster than ever due to the GEN 8 technology. And do not miss Transitions Drivewear that adapts to the light conditions inside the car.





NUPOLAR®
polarized lenses



Pol 1 Grey Pol 3 Grey Pol Green Pol Brown

POLARISED

Index	1,5	1,5-1,67	1,5	1,5-1,67
Absorption	70 %	83 %	85 %	85 %

Transitions™

Transitions™
Signature GEN8

Transitions™
XTRACTIVE®
NEW GENERATION



Grey Brown Grey

PHOTOCROMIC

Index		1,5-1,67	1,5-1,67	1,5-1,6
Transmittance	Not activated	88 %	88 %	83 %
	Activated in car	-	-	50 %
	Full activation	11,1 %	14,8 %	10 %

Transitions™
Drivewear®



POLARISED & PHOTOCROMIC

Index		1,5
Transmittance	Not activated	28 %
	Activated in car	21 %
	Full activation	11 %

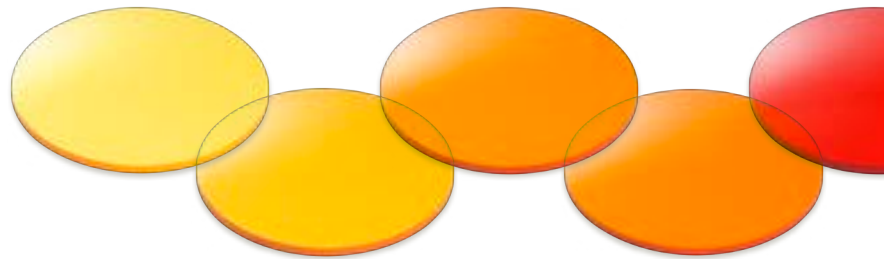
Note: Transitions lenses cannot be ordered uncoated.



ML Filter

ML Filters can dim or cut off selected parts of the light spectrum. They can be used on healthy eyes or for medical purposes, to protect the eyes, create better contrast, or provide increased comfort.

Read more about ML Filter program on page 63.



Filter colours

The yellow to orange range of filters is often used to increase contrast. The red filters are often used for light-sensitive people, and the pastel-coloured filters are often used for comfort or to calm the impressions when suffering from neuro-visual problems.

ML Filters – a world of possibilities

Tailored filter colours

We also offer customised filter colours. If you provide us with a colour sample, we produce your own tailored filter colour. Please state if you prefer the measures of the colour or the curve if they differ.

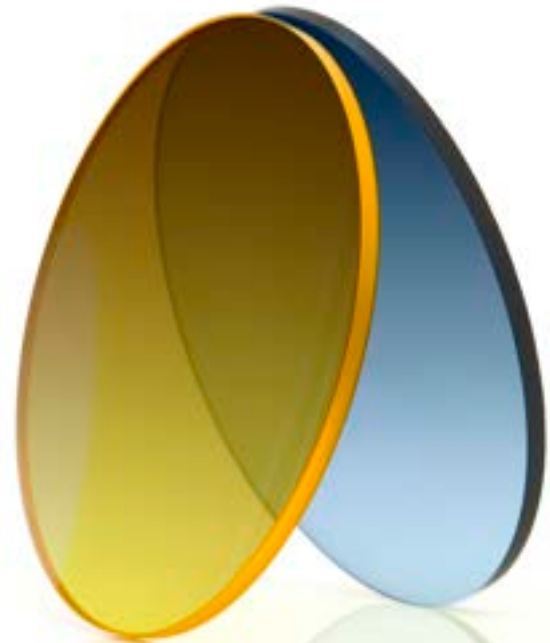
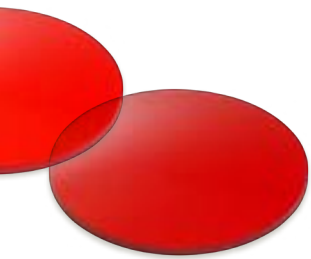
Filter combinations

All ML Filters can be combined with:

- Standard colour (ML Grey or ML Brown)
- Polarisation (Pol 1 or Pol 3)
- Photochromic effect
- Mirror effect
- Coating

Please find the complete list of possible colour combinations on our website.

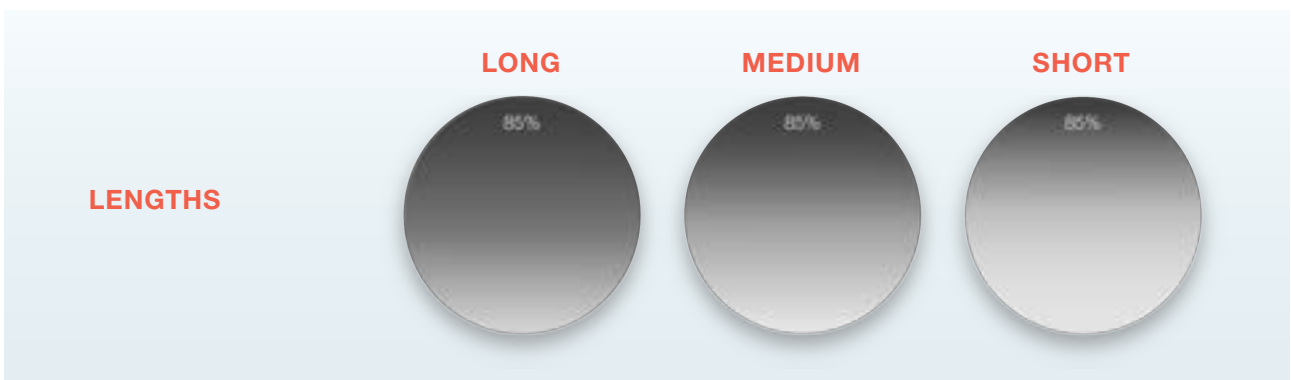
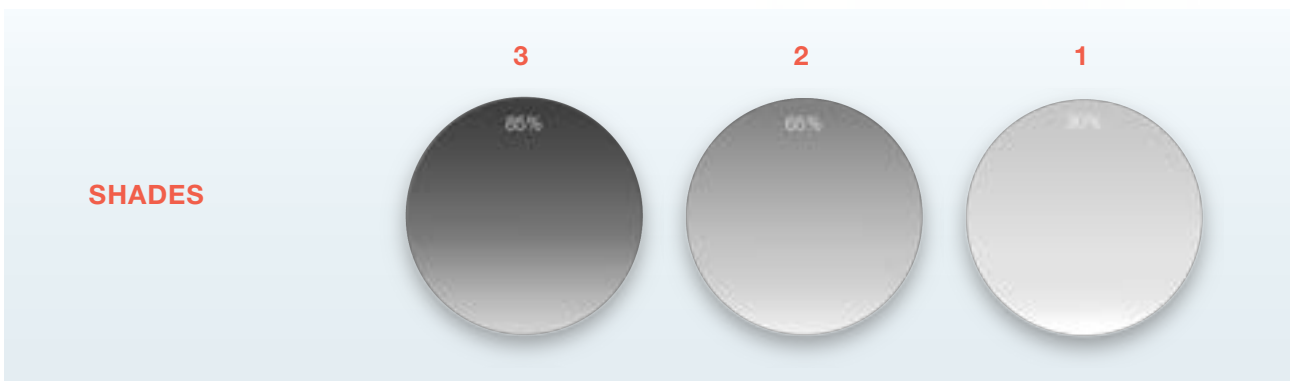




Gradient lenses

Gradients give a darker tone at the top of the lens and lighter at the bottom, which adds a relaxing tint and a little extra attitude to the spectacles.

Our gradients comes in three shades and three lengths that can be combined in any way.





Filter colours overview

ML Filters for contrast and light-sensitivity									
	ML400	ML LLR	ML C1	ML450	ML500	ML511	ML527	ML550	ML585
Pol 1									
Pol 3									

ML Filters for comfort or neuro-visual problems				
	ML41	ML EMERALD	ML SAPPHIRE	ML LAVENDER
Light				
Medium				
Dark				

ML ND Filters				
	ND20	ND21	ND22	ND23
	Absorption: 42	Absorption: 68	Absorption: 87	Absorption: 96

Standard colours				
We have two standard colours in our assortment. You can add one of those to an ML Filter if you wish to have a darker or less eye-catching lens. We normally provide these in steps of ten percent: 10 %, 20 %, 30 %, etc, but in special cases we can colour lenses with up to 99 % grey.				
	ML GREY	ML BROWN		



Mounting in frame

When you mount the lenses in the frame, it might be valuable with some guidance. See below for information on fitting, decentration and engravings.

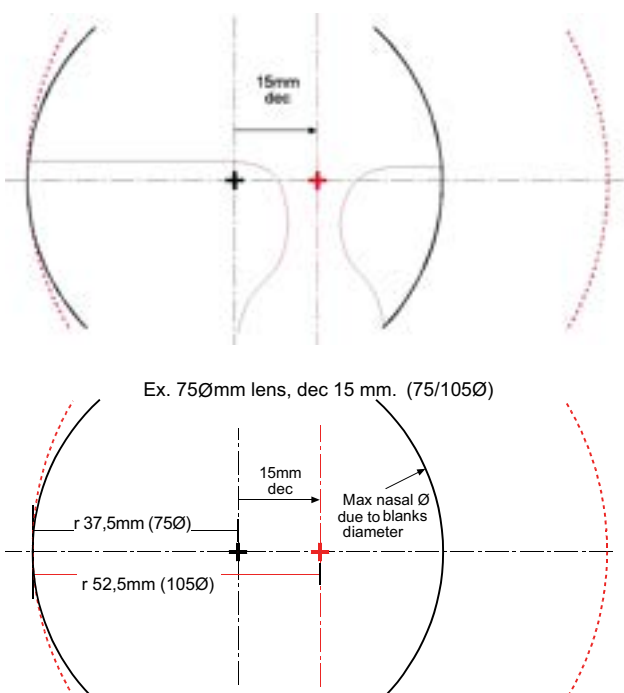
SINGLE VISION

All single visions should be fitted with OC in the centre of the pupil (OC is marked with a cross between the engravings for Xact and Pro lenses).



DIAMETER AND DECENTRATION

In most cases, the optical centre can be displaced by up to 15 mm from the geometrical centre. This allows us to produce lenses in larger diameters. This calculation is automatically done when the frame shape is sent in.



PROGRESSIVE

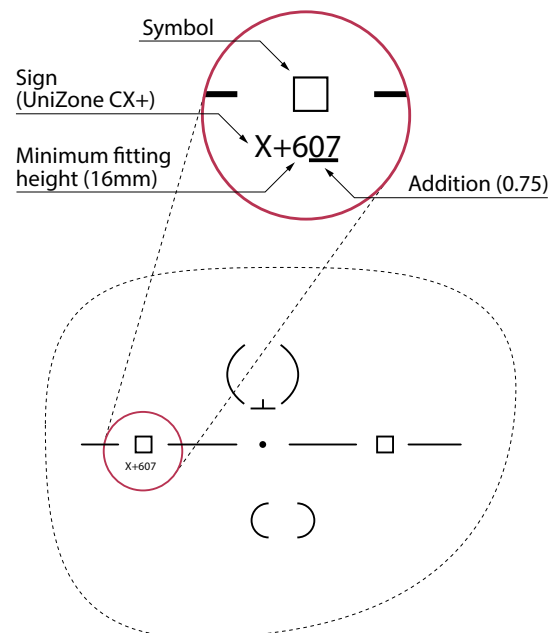
All progressive designs should be fitted with the cross in the centre of the pupil. The cross is placed 4 mm above the engravings for all progressive designs except Image Easy, and Desktop where the cross is 2 mm above the engravings.



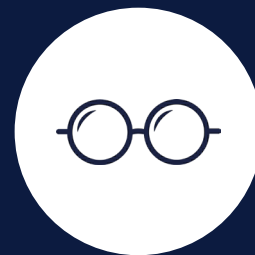
ENGRAVINGS

All Xact and Pro lenses have engravings and all our progressive lenses are marked with the design and addition value. Like the standard, the centration marks are 34 mm apart with the prism reference point in the middle.

Sometimes when there is a small Myosoft or Hypersoft zone, we must decrease this distance. The prism reference point will always be centred between these marks (see image below). In these cases, it is 26 mm between the engravings.







Frames

Frames	52
Standard frames	56
Half frames	57
Sun frames	58
Covers	60
HangOn / Flip-Up / Sport frames	61



FRAMES

INTRODUCTION





FRAMES

Function and aesthetics in harmony

A frame is often chosen from an aesthetical perspective, not always with the best optical solution in mind. But the frame has a huge impact on the end result, especially for more complicated solutions where the lenses require a certain size or tilt.

Our frames are specifically developed to hide the glass solution in the best possible way. They are comfortable, robust, and easy to fit.

The designs are classic for the solutions to last long. We have started our journey towards a more sustainable assortment, intending to update all our frames with biomaterials. Already today, several of our frames are fully or partly made of biomaterials.

This is a selection from our range. For full assortment, please visit our website.

Read more on [multilens.com](https://www.multilens.com) 



STANDARD FRAMES



MODEL

ALEX

SPECIFICATION

Size M: Hbox 50, Vbox 42, Dbl 18
Size L: Hbox 52, Vbox 42, Dbl 18

COLOUR, ARTICLE NO

Black M, 91013 Havana M, 91168 Transparent M, 91221
Black L, 91167 Havana L, 91166 -



MODEL

ROMA

SPECIFICATION

Roma S: Hbox 46, Vbox 38, Dbl 19
Roma M: Hbox 48, Vbox 39, Dbl 19

COLOUR, ARTICLE NO

Black S, 91164
Black M, 91124
Havana S, 91163
Havana M, 91123

MODEL

NELLI

SPECIFICATION

Size: Hbox 50, Vbox 41,
Dbl 18

COLOUR, ARTICLE NO

Brown, 91001
Black, 91038

MODEL

VIDI

SPECIFICATION METAL

46: Hbox 46, Vbox 34, Dbl 19
48: Hbox 48, Vbox 36, Dbl 19
50: Hbox 50, Vbox 38, Dbl 19
52: Hbox 52, Vbox 40, Dbl 19

ARTICLE NO

70546
70548
70550
70552

SPECIFICATION MATT BLACK

48: Hbox 48, Vbox 36, Dbl 19
50: Hbox 50, Vbox 38, Dbl 19

70555
70556

SPECIFICATION LADY

48: Hbox 48, Vbox 36, Dbl 18
50: Hbox 50, Vbox 38, Dbl 18

91036
91037





HALF FRAMES



MODEL

HALF 11

SPECIFICATION

Size: Hbox 45, Vbox 28,
Dbl 22

COLOUR, ARTICLE NO

Frost, 46101

Chill, 46102

Bronze, 46103



MODEL

HALF 12

SPECIFICATION

Size: Hbox 41, Vbox 28,
Dbl 24

ARTICLE NO

45212



MODEL

HALF 13

SPECIFICATION

Size: Hbox 42, Vbox 29,
Dbl 25

ARTICLE NO

45513



MODEL

HALF 14

SPECIFICATION

Size: Hbox 42, Vbox 30,
Dbl 22

COLOUR, ARTICLE NO

Grey, 45414

Red, 45514

Blue, 45614



MODEL

ATHENS

SPECIFICATION

Size: Hbox 44, Vbox 30,
Dbl 19

COLOUR, ARTICLE NO

Havanna, 91229

Black, 91230

Red, 91245



MODEL

OSLO

SPECIFICATION

Size: Hbox 41, Vbox 29,
Dbl 26

COLOUR, ARTICLE NO

Grey, 91247

Red, 91246



SUN FRAMES



MODEL

SUN GUARD 1

SPECIFICATION

Size: Hbox 58, Vbox 39,
Dbl 14

COLOUR, ARTICLE NO

Black, 91103

Hazelnut, 91126



MODEL

SUN GUARD 2

SPECIFICATION

Size: Hbox 60, Vbox 43,
Dbl 14

COLOUR, ARTICLE NO

Black, 91125

Hazelnut, 91127



MODEL

SUN 3

SPECIFICATION

Size S: Hbox 46, Vbox 28, Dbl 15
Size M: Hbox 48, Vbox 34, Dbl 15
Size L: Hbox 56, Vbox 34, Dbl 13
Size XL: Hbox 59, Vbox 37, Dbl 14

COLOUR, ARTICLE NO

Brown S, 91028

Brown M, 91022

Brown L, 91021

–

–

Black M, 91041

Black L, 91042

Black XL, 91043



MODEL

SUN 2

SPECIFICATION

Size: Hbox 55, Vbox 35,
Dbl 21

COLOUR, ARTICLE NO

Grey, 91027

Brown, 91020



MODEL

SUN 7

SPECIFICATION

Size: Hbox 63, Vbox 38,
Dbl 15

ARTICLE NO

91061



MODEL **SUN LADY 1** ARTICLE NO 91017

SPECIFICATION
Size: Hbox 65, Vbox 38,
Dbl 17



MODEL **SUN LADY 2** ARTICLE NO 91019

SPECIFICATION
Size: Hbox 56, Vbox 41,
Dbl 18



MODEL **SUN KID** COLOUR, ARTICLE NO
Grey, 91100
Red, 91101
Blue, 91102

SPECIFICATION
Size: H-box 49, V-box 30,
Dbl 19

SPORT



MODEL **RIO** ARTICLE NO
Black, 91162
91122R, 91122L

SPECIFICATION
Size: Hbox 77, Vbox 44, Dbl 15
RIO RIM



MODEL **RIO RX** ARTICLE NO
Black, 91222

SPECIFICATION
Size: Hbox 60, Vbox 41,
Dbl 19



COVERS



MODEL

BIOCOVER

SPECIFICATION

Size S: Hbox 60, Vbox 39, Dbl 12
Size M: Hbox 64, Vbox 42, Dbl 13
Size L: Hbox 67, Vbox 45, Dbl 15

COLOUR, ARTICLE NO

Hazelnut S, 91047	Black S, 91044	Dark Bronze S, 91067
Hazelnut M, 91048	Black M, 91045	Dark Bronze M, 91068
Hazelnut L, 91049	Black L, 91046	Dark Bronze L, 91069



MODEL

FILTERCOVER

SPECIFICATION

Size: Hbox 60, Vbox 46,
Dbl 16

ARTICLE NO

Black, 91232



MODEL

COVER BLACK SMALL

SPECIFICATION

Size: Hbox 54 Vbox 41
Dbl 17

ARTICLE NO

Black, 91227



MODEL

COVER KID

SPECIFICATION

Size: Hbox 56, Vbox 36,
Dbl 13

ARTICLE NO

Black, 91073



HANG-ON



MODEL

HANG-ON

SPECIFICATION

Size M: Hbox 48, Vbox 35, Dbl 19

Size L: Hbox 53, Vbox 39, Dbl 19

ARTICLE NO

46105

91165

FLIP-UP



MODEL

FLIP-UP WITH RIM

SPECIFICATION

Size M: Hbox 51, Vbox 37, Dbl 18

Size L: Hbox 51, Vbox 44, Dbl 18

Flip-up mechanism with mounting kit

ARTICLE NO

91004

91005

91009



MODEL

FLIP-UP W/O RIM

SPECIFICATION

Size M framekit: Hbox 54

Vbox 43 Dbl 14

Size L framekit: Hbox 57

Vbox 48 Dbl 14

Flip-up mechanism w/o rim

ARTICLE NO

07055

07056

07056

07056

92002





ML Filter Program

ML Filter program	62
Introduction to ML Filter	65
Our filter history	68
Filters for normal vision	70
Filters for medical use	74
How to try out filters	78
Our filters	80
AMD Comfort	84
ML Night Cover	86
ML Bilux	87
Filter sunglasses	88





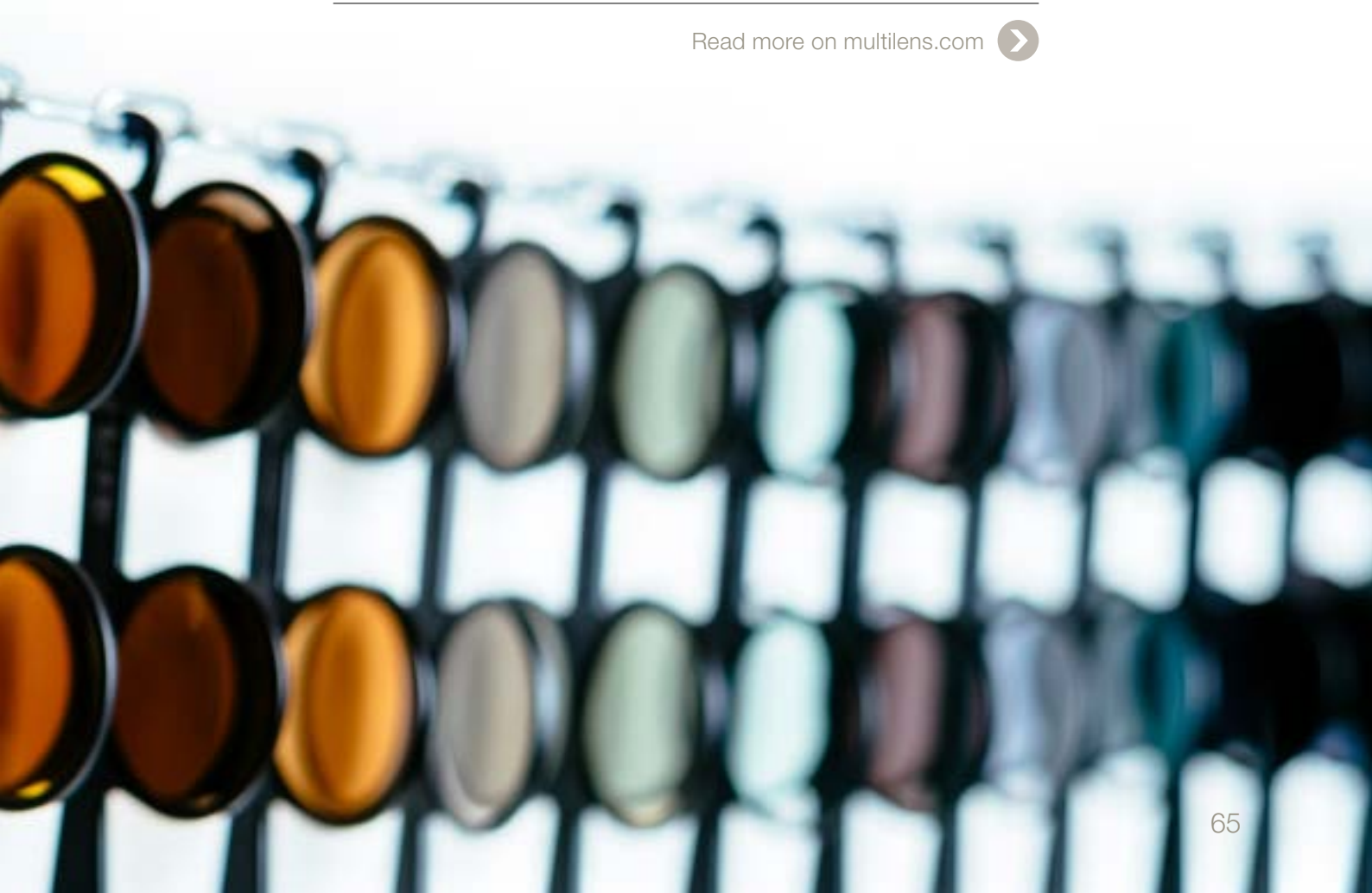
ML FILTER PROGRAM

ML Filter for better vision

Selective filters absorb disturbing light. But was it that? The answer to this question lies with the user, as filters cut off or dims the parts of the light that are *perceived* as disturbing. Filters can be used on healthy eyes or for medical purposes, to protect the eyes, create better contrast, or provide increased comfort.

Let the customer test different filters and be responsive to their reactions to get direction on which filter you should recommend. It is important to remember that every person who tries filters has a different experience, and we cannot promise a specific effect for a specific individual. For inspiration on filter solutions and case descriptions, please contact your local Multilens representative.

Read more on [multilens.com](https://www.multilens.com) 





What is the difference between a colour and a filter?

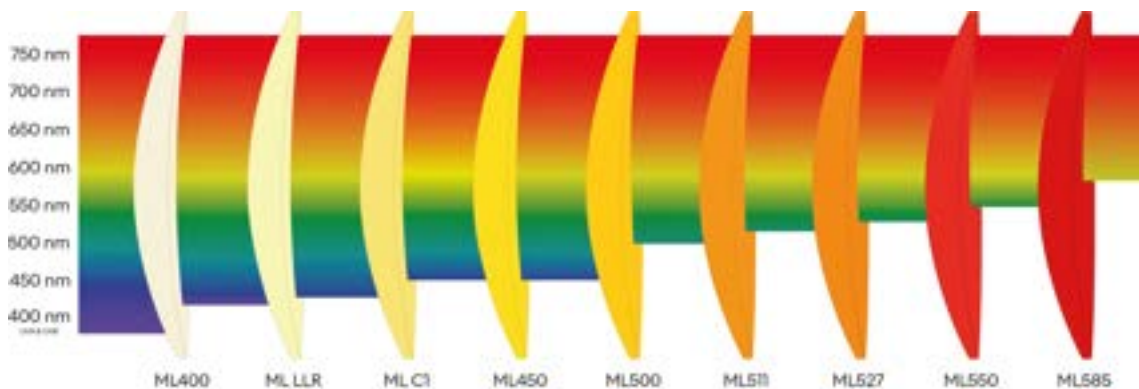
A filter is a coloured lens, but what allows us to call it a filter is a knowledge of exactly what light that is absorbed.

Blue light

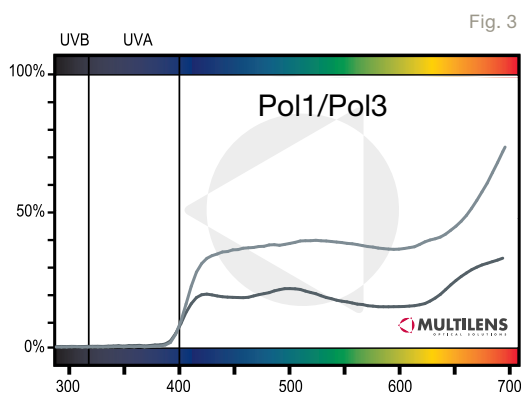
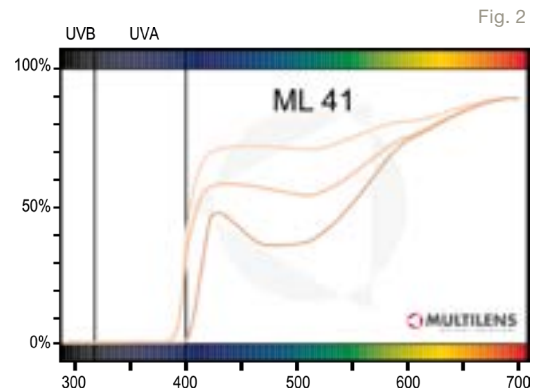
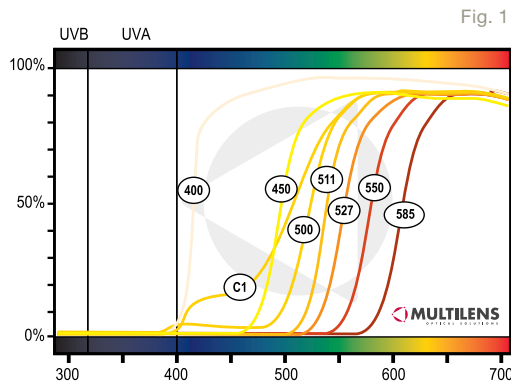
The number of LED light sources that emit blue light has increased in recent years. Mobile phones, computer screens, and car headlights all contribute to the total amount of blue light that our eyes are exposed to. Exactly how harmful blue light is has been discussed in the research, but it is clear that larger amounts affect the eye negatively, especially if the eye is damaged¹.

Coloured lenses

As the awareness of blue light increases, the assortment of coloured spectacles grows. Your customers meet a huge number of different colours and shades when they search online for blue-light-blocking spectacles. Many are randomly coloured or designed from a cosmetical perspective, and cannot be considered as filters.



¹Retinal light toxicity (Eye 2011) 25,1-14.



Filter spectacles

Multilens is one of the pioneers in selective filters and has developed several filters in plastic materials that have become standard in the industry. The filter colours are chosen with care and great precision – they are based on 40 years of knowledge about exactly which light that is absorbed.

Filters can cut off selected parts of the light spectrum (Fig. 1), dim parts (Fig. 2), or dim the entire light spectrum by combining certain filter colours with grey colour or polarisation (Fig. 3).

ML Filter

There is a difference between colour and filter, but also between filter and filter. Look for ML Filter to be sure it is a quality filter. We are happy to share our knowledge in this field – please, get in touch and we will help you!

ISO Standard

We manufacture our filters according to ISO 8980-3 and ISO 12312-1, which categorises filters into groups zero to four. These standards regulate the types of filters permitted for use when driving a car. This applies to our classic range of yellow to red filters.

Classic filters

In short, you are allowed to drive a car with all edge filters up to ML500 in daylight.

In the twilight and at night, you are only allowed to use our brightest yellow filters ML400 and ML LLR.

Comfort filters

Daytime, you can drive with all our pastel coloured comfort filters except for Emerald Dark.

At night you are only allowed to use the Light versions of our comfort filters.

Please visit multilens.com for a complete list.



Multilens founder Lars Hellström.

MULTILENS HISTORY

Pioneers in organic filters

Multilens's founder Lars Hellström often said that creative optometrists find solutions, while others sell spectacles. On good grounds, he was called the "Gyro Gearloose of optics" by his first customers and began experimenting with filters early on.

As early as the 1970s, the company Corning manufactured coloured filters in mineral glass, but there were some challenges with them. First of all, the material was quite expensive. At this point, filters could be added to glass with powers, but the range was limited and filters could not be combined with special optics.

When Lars Hellström started Multilens in 1983, he, therefore, wanted to test if it was possible to colour plastic material. After a period of trial and error, it worked – Lars Hellström became the first in the world with filters in plastic material!

– Dad's little business was located in an old paper mill, in the home of the former factory caretaker. That's where he started testing different pigments. He had a small hob and pots with colouring mixture and dipped the plastic lenses until he found the right colours, says his son Björn Hellström.

First out were ML511, ML527 and ML550. They cut off the same light as Corning's versions, but since then Multilens has developed a wide range of



– We worked together with an optometrist named Carl Otto Ahlström and first the filter was called CO1 after him, but when more optometrists became involved in the development, we simplified the name to C1, which also stands for Comfort.

In the early days of filters, most people talked about contrast-enhancing properties. Today, the message is more about comfort and the patient's own experience. But filters also provide protection and that is why the ML400 was invented.

– It is usually said that UV light ends at about 400 nm and therefore we wanted to cut the light there, says Björn.

– This was simply our way of UV-treating the lenses. We put on a light yellow colour for protection, which also provides a dose of comfort.



Björn Hellström

own filter colours, such as ML450, ML500, ML585, and ML C1. Several of them were so successful that attempts have been made to copy them – not least the popular ML C1 filter that is often used for sunglasses.

– Our first filters effectively absorbed all unwanted light, but users sometimes experienced that the colour vision changed too much. That's why we developed the ML C1 filter, which retains colour vision better and feels a little softer, says Björn.

” In the early days of filters, most people talked about contrast-enhancing properties. Today, the message is more about comfort and the patient's own experience.

So where is the filter technology going now?

– I think we will see more broken filter colours, ie filters that select the light, but with a small amount of grey or brown colour for a more aesthetic effect. I also think we will see more variants of filters for people with neuro-visual problems. And we at Multilens will continue to explore how filters in different ways can make people feel better!



ML FILTERS FOR NORMAL VISION

Don't miss the large group of people with normal vision who would benefit from filters

Historically, filters have primarily been used for medical purposes, but today more and more people without eye diseases discover filters. The elderly can benefit from better contrast vision and the younger can avoid the strain caused by long days at the computer. And regardless of age – filter sunglasses provide protection and comfort beyond ordinary sunglasses.





Increase
contrast vision
with filters.



ML C1: Regular, Pol 1, Pol 3

ML Filters for better contrast

The colour scale of our contrast-enhancing filters goes from bright yellow to orange.

ML Filter sunglasses

We often recommend ML Filter C1 together with Pol 1 or Pol 3, but you can combine any filter with polarisation.

FILTERS FOR ELDERLY

Most elderly would have better vision with filters

You meet them every day in your clinics and stores. The people with great maturity and wisdom of life but insidious vision deterioration. Unfortunately, it is difficult to get away from the natural ageing of the body and eye, but many tools can increase the quality of life for the elderly. One of them is filters.

Contrast vision deteriorates with age

Age affects the contrast vision and it deteriorates the older we get, regardless of whether we have normal vision or an eye disease (see table on previous page). Both contrast vision and light conditions have a great impact on visual acuity, not least in the oldest age groups (> 84 years). Their visual acuity is halved at low contrast conditions. If they in addition are exposed to glare, only 10 % of vision remains.

The blue bars in the table to the left show the difference in visual acuity between high and low contrast. The orange bars show the visual acuity with glare.

Photosensitivity common among the elderly

With age, the retina also becomes more sensitive to disturbing light. Many people wear regular sunglasses to ease discomfort.

But sunglasses dim all light, across the spectrum, and often become too dark for an elderly person who is dependent on good light for best vision.

Filter sunglasses

By cutting off the unwanted light with a filter and adding a light polarisation, the glasses become significantly brighter than ordinary sunglasses – still providing the same level of protection and comfort.



FILTERS FOR YOUNGER PEOPLE

Younger clients complaining about tired eyes or headaches? Try filters for unbeatable comfort!

Young eyes are exposed to increasing amounts of blue light from screens of different kinds. Some people also suffer from disturbing light when performing outdoor activities. As a young or middle-aged person with normal vision, there are still various reasons for choosing a filter solution.

Everyday filters

You probably recognise those customers too – the squinting 40-plus people who suffer from tired and dry eyes or a headache after a long day at the computer.

Some also find it difficult to drive in the dark.

Filters for a comfortable everyday life





Sunglasses for an active life

Many people are in a constant search for the ultimate sunglasses.

In filter sunglasses, a protective UV and blue light filter are combined with a polarising or photochromic layer for a comfortable day in the sun – lighter solutions for everyday outdoor life, and darker for light-intense activities such as sailing or skiing.

People suffering from migraines

You might also see customers who suffer from migraines. Many people testify that coloured filters can give a sense of relaxation, and calm the visual impressions when having a migraine attack.



ML Filter for screen work

Many experience a positive effect of a light yellow filter such as **ML400** or **ML LLR**. They both filter out blue light from the computer screen.

ML Filter for driving

The filter colour **ML LLR** can also work perfectly for driving at night as it reduces the risk of glare from on-coming cars' LED headlights. Our standard solution is called ML Night Cover and is manufactured according to ISO 8980-3 and ISO 12312-1, which regulates the types of filters permitted for driving (see page 86).

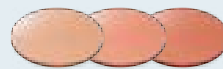


ML Filter sunglasses

ML C1 with Pol 1 or Pol 3 becomes fantastic filter sunglasses, but all filters are available with a polarising or photochromic effect.

For sports activities where contrast vision is important, ML450 with polarisation is an excellent solution.

For extra bright situations such as skiing or sailing, a darker filter can be used, for example, ML500 or ML511 plus polarising effect.



ML Filter for migraine

For migraine patients, **ML41** or **ML Lavender** filter are the ones to try. Many experience a calming effect using these filters.



FILTERS FOR MEDICAL USE

A wide range of opportunities

Filters can be used in cases of visual impairment or when neuro-visual problems occur in conjunction with brain trauma, fatigue syndrome or migraine.

For many decades, the classic filter colours, bright yellow, orange and red, have been used for people with eye disease. Now, the milder pink, purple, green and blue comfort-enhancing filters are used as well.

People with neuro-visual problems often prefer these mild and calming filter colours.

ML Filters are often used for relieving symptoms caused by the following diagnoses:

- Macular Degeneration
- Optic Atrophy
- Glaucoma
- Diabetic Retinopathy
- Retinitis Pigmentosa (RP)
- Achromatopsia
- Neuro-visual problems





VISUAL IMPAIRMENT

Make to most of the remaining vision in case of visual impairment

People with reduced vision need good lighting, but at the same time, bright light can be perceived as troublesome. Not least, the energy-rich blue light can cause discomfort in light-sensitive eyes.

By cutting off the unwanted light with a filter, the light as a whole becomes less troublesome.

Protection against blue light

Short-wave blue light in excessive amounts can cause damage to the eyes. For people who already have a visual impairment, and must be careful with their remaining visual capacity, filters are a way to protect the eyes against further damage¹.

In addition, filters often increase visual comfort for these patients.

BLEPHAROSPASM

Eyelid twitching usually goes away on its own. But people with benign essential blepharospasm can develop severe and chronic (long-term) eyelid twitching. Scientific evidence states that the pink ML41 filter has a positive effect on the visual function of people with blepharospasm^{2,3}.

¹ Retinal light toxicity (Eye 2011) 25,1-14.

² Effect of pink filter glass on visual function in Benign Essential Blepharospasm (Mårtensson 2017)

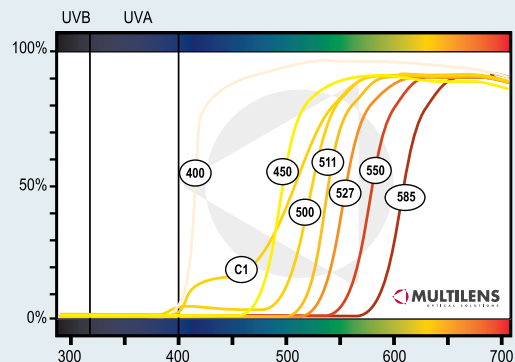
³ FL-41 tint improves blink frequency, light sensitivity, and functional limitations in patients with benign essential blepharospasm, Ophthalmology 2009. (Blackburn MK, Lamb RD, Digre KB, Smith AG, Warner JE, McClane RW, Nandedkar SD, Langeberg WJ, Holubkov R, Katz BJ).



Classic filters

For people with visual impairment, we offer selective, filters in the colour range of light yellow to dark red. Most block all blue light but a couple of the lighter ones let through a certain part for better colour reproduction.

The number in the name indicates which light is being absorbed. For example, the ML511 absorbs all light below 511 nm, which means all blue light.



Comfort filters

It has also been shown that some patients with visual impairment react positively to relieving filters that dim part of the light spectrum, rather than cutting off certain wavelengths.

Colour and polarisation

Many people with visual impairment are sensitive to light and also need to dim the entire light spectrum. In those cases we recommend adding polarisation, a neutral grey colour or an ND-filter to the filter solution.

Check "Our filter" for an overview of specific filters and possible diagnoses (see page 80).



NEURO-VISUAL PROBLEMS

Relief and comfort for people with neuro-visual problems

Many people who have had a concussion or stroke, or suffer from fatigue syndrome or post-covid, experience brain fatigue and visual disturbances. Others suffer from neuro-logical diseases such as migraines. These customers do not need better contrast and more visual impressions but calm and tranquillity.

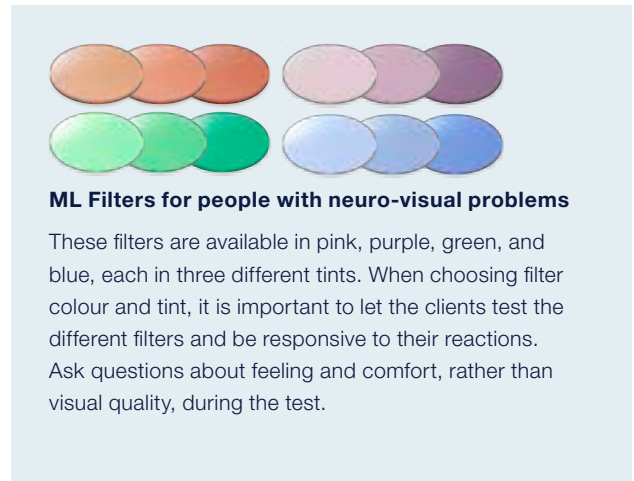
Calming effect

People who want to calm their overheated brains often appreciate a relieving filter that dims the light at certain wavelengths⁴. Which light that feels disturbing is highly individual – as is the customer’s experience of filters. Therefore, studies on filters are often based on the person’s subjective improvement.

⁴ Vanessa Fimreite, Kevin T. Willeford, Kenneth J. Ciuffreda (2016): Effect of chromatic filters on visual performance in individuals with mild traumatic brain injury (mTBI) – Journal of Optometry (2016) 9, 231-239

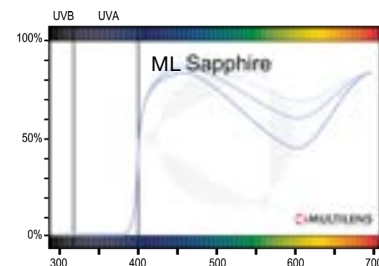
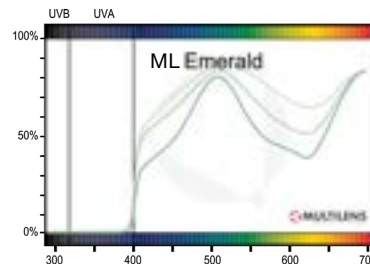
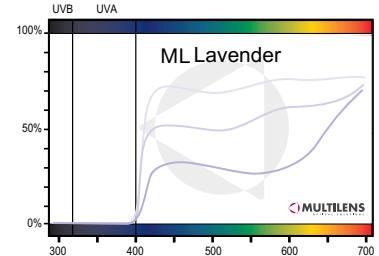
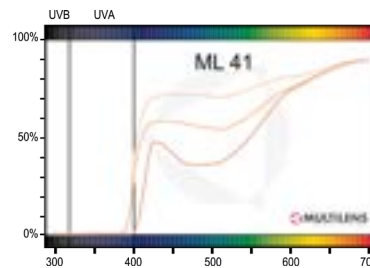
Contact us for advice

Filters for medical use often require deeper analysis and a special interest in patients with reduced vision. Some of these patients are registered at a vision centre, but others need help from a private practitioner. If you already see this type of patient – or want to start, feel free to contact your local Multilens representative or our global office for support.



ML Filters for people with neuro-visual problems

These filters are available in pink, purple, green, and blue, each in three different tints. When choosing filter colour and tint, it is important to let the clients test the different filters and be responsive to their reactions. Ask questions about feeling and comfort, rather than visual quality, during the test.





PATIENT CASE

by Tony Pansell



ML41 | Light, Medium, Dark

DESCRIPTION: Pink lens that absorbs some of the blue light but also parts of the green.

OFTEN USED FOR: Comfort, Blepharospasm, Migraines, Neuro-visual problems and visual field defects.



Migraines and Asthenopia

By Tony Pansell, Optometrist and Associate Professor, Karolinska Institutet, Sweden

The patient is a 40-year-old woman with a lot of headache problems and migraines. She describes several types of headaches, some of which are milder and do not affect her as much, while the intense migraine attacks make her bedridden. She suspects that the migraine has something to do with her eyes. During periods with more eye strain, the frequency of migraine attacks increases.

Anamnesis

The patient wears adequate distance glasses and uses computer glasses that she received from her employer. No deviating findings on adjustment to near distance, strabismus, or other that can explain the headache problem.

Assessment

Tests the different Multilens filters in flirps, and the patient finds the blue (ML Sapphire) filters comfortable, the green (ML Emerald) gives no difference in experience and the pink (ML41) feels best.

Treatment

The patient is treated with ML41 Medium in both distance glass and computer glasses. The same powers as before.

” The patient is treated with ML41 Medium and describes a large improvement.

Follow-up

At follow-up eight weeks after the examination, she describes a large improvement in the number of migraine attacks and the attacks she suffers from are milder than before.



”Comfort rather than visual acuity”

How to try out filters

Filters are about the patient’s experience and it is not possible to measure which one fits. Therefore, it is important to let the customer or patient try different filters and pay attention to their reaction. The most important question is: How does this filter *feel*?



Jörgen Gustafsson,
Optometrist, PhD, FAAO

JÖRGEN’S TIPS

- Start from the individual in front of you – what are the needs of this person?
- Select a few filters to try on.
- Ask questions about comfort rather than visual acuity.
- Low contrast vision is more important than high contrast vision.
- Different lighting conditions create different needs – combine the selected filter with a polarising or photochromic effect.
- Take the opportunity to talk about lighting.
- Also test up close.
- Let the patient borrow a cover frame to test the filter at home, both indoors and outdoors.

Does it feel comfortable?

– Focus on comfort rather than visual acuity, says optometrist Jörgen Gustafsson. Jörgen has worked with filters since the first lenses were dipped in colours 40 years ago and below are his tips for a successful assessment.

Bonus tip

If you want to show the difference between a selective filter, which absorbs parts of the light spectrum, and a coloured glass, which dims the entire light spectrum, you can let the patient test the two types, one after the other.

– I usually start the filter test by using one flirp with ML511 and one flirp with 50 % neutral grey. Both remove 50 % of the light but in two different ways. If there is a positive reaction to ML511, you can go ahead and compare it with other filters.

If you want to perform this test regularly, you can order a flirp with this specific combination, or two different solutions for the customer to try on.

Test material

Many people try out filters using flirps, but we also provide oculus rings and cover frames with different filter colours.

Recommendations

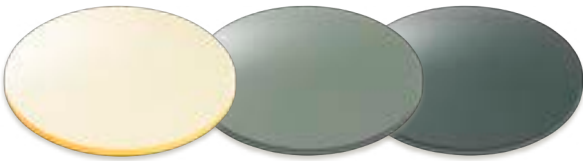
Filters are about experience, but we have compiled our knowledge on the next spread to help you get started.





Our filters

ML400 | REG, POL 1, POL 3



DESCRIPTION:

Slightly coloured lens. Absorbs most light up to 420 nm.

OFTEN USED FOR:

Comfort, protection, computer glasses.

ML LLR

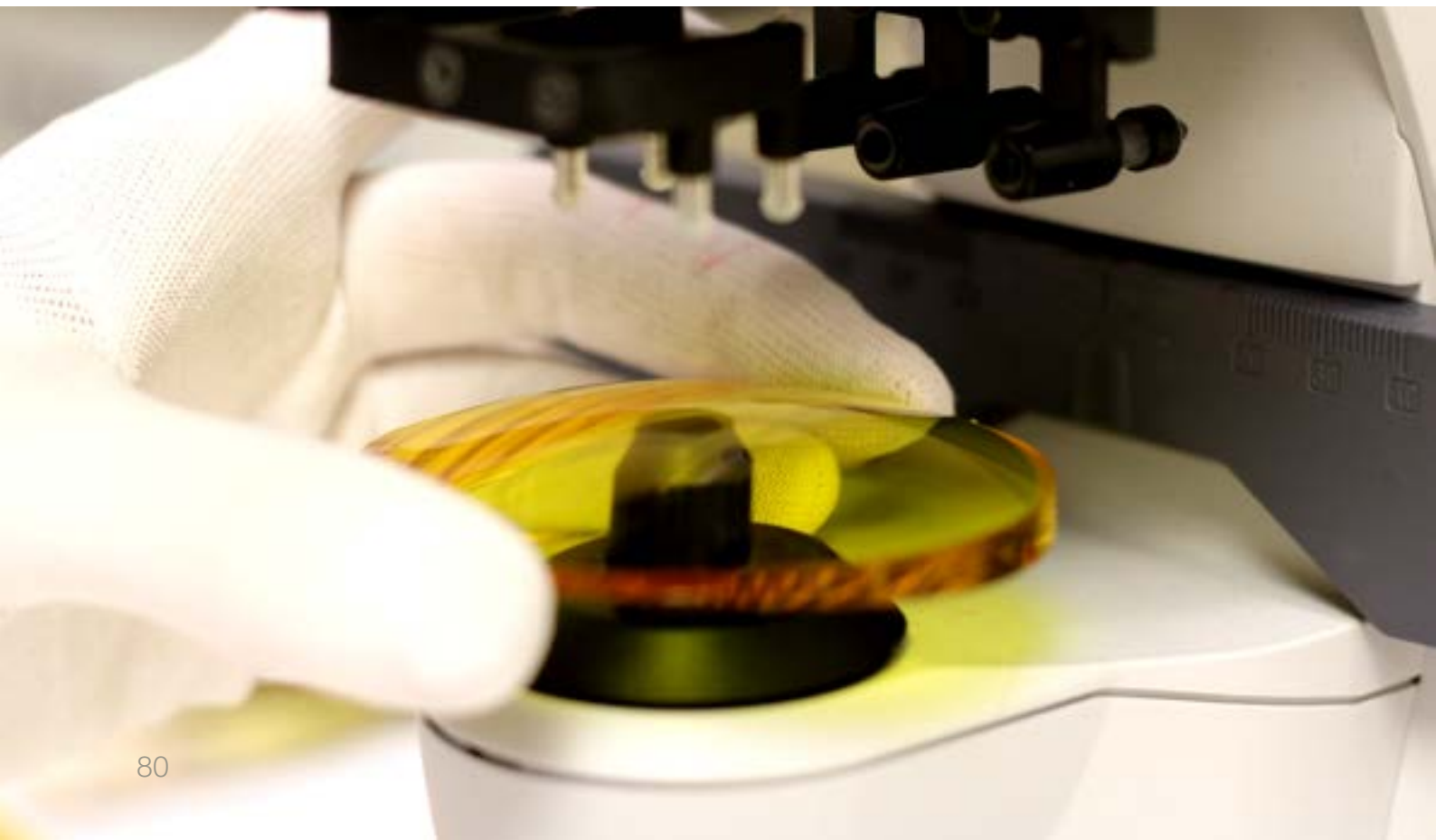


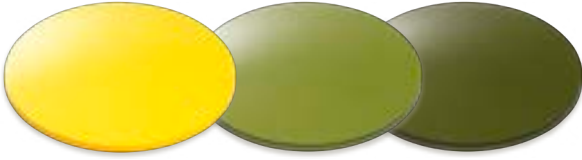
DESCRIPTION:

The LLR (LED Light Reduction) filter reduces the cold blue light from LED lights and is beneficial for night driving. The ML Night Cover concept is built on this filter colour (see page 86). It can also be comfortable when using screens.

OFTEN USED FOR:

Comfort, night driving, computer glasses.



**ML450 | REG, POL 1, POL 3**

DESCRIPTION:

Clear yellow lens that absorbs wavelengths below 450 nm.

OFTEN USED FOR:

Contrast, contrast enhancing sports glasses.
AMD, Opticus Atrophy.

ML C1 | REG, POL 1, POL 3

DESCRIPTION:

Admits some of the blue light to help with colour vision.
Blocks 80 % of all light below 450 nm.

OFTEN USED FOR:

Comfort, effective sunglasses together with polarisation.
AMD.

ML500 | REG, POL 1, POL 3

DESCRIPTION:

Admits some blue light to help colour vision. Blocks about 95 % of all light up to 500 nm.

OFTEN USED FOR:

Contrast, sports glasses for light-intensive environments,
effective sunglasses together with polarisation.
AMD, Glaucoma, Opticus Atrophy.

ML511 | REG, POL 1, POL 3

DESCRIPTION:

Absorbs light below 511 nm (all blue light).

OFTEN USED FOR:

Effective sunglasses together with polarisation, sports
glasses for light-intensive environments.
AMD, Glaucoma, Opticus Atrophy.



ML527 | REG, POL 1, POL 3



DESCRIPTION:

Dark orange lens that absorbs light under 527 nm. Can change colour vision too much for people with normal vision.

OFTEN USED FOR:

Glaucoma, Diabetes Retinopathy, Retinitis Pigmentosa (RP).

ML550 | REG, POL 1, POL 3



DESCRIPTION:

Bright red lens that absorbs light up to 550 nm. Mainly used for visually impaired patients.

OFTEN USED FOR:

Diabetes Retinopathy, Retinitis Pigmentosa (RP), Achromatopsia.

ML585 | REG, POL 1, POL 3



DESCRIPTION:

Dark red lens that absorbs light below 585 nm. Most commonly used in achromatopsia.

OFTEN USED FOR:

Diabetes Retinopathy, Achromatopsia.

ML ND | 20, 21, 22, 23



DESCRIPTION:

ND stands for Neutral Density and dims the whole colour spectrum equally. Available in four tints (ND20, ND21, ND22, ND23).

OFTEN USED FOR:

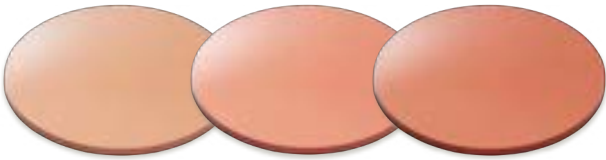
Suitable for dimming the light in a colour neutral way.

Filter	Absorption
ND20	42 %
ND21	68 %
ND22	87 %
ND23	96 %

* The original pink filter FL-41 was developed in UK during the 1980s, when researches were seeking for a solution for individuals who were disturbed by fluorescent lights. Over time, several persons have been involved with using and developing the filter. And over time one filter colour has become several versions. Therefore we, even if we purchase FL-41 pigment, have chosen to call it ML41. We can only answer for our own product.



ML41* | LIGHT, MEDIUM, DARK



DESCRIPTION:

Pink lens that absorbs some of the blue light but also parts of the green. The largest absorption is on the border between blue and green light.

OFTEN USED FOR:

Comfort, Blepharospasm, Migraines, Neuro-visual problems.

ML LAVENDER | LIGHT, MEDIUM, DARK



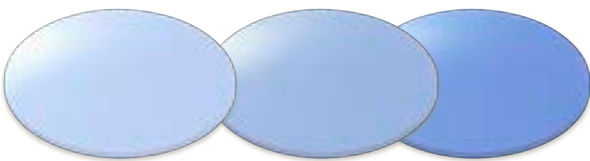
DESCRIPTION:

Purple lens that absorbs parts of both blue and green light.

OFTEN USED FOR:

Comfort, Neuro-visual problems.

ML SAPPHIRE | LIGHT, MEDIUM, DARK



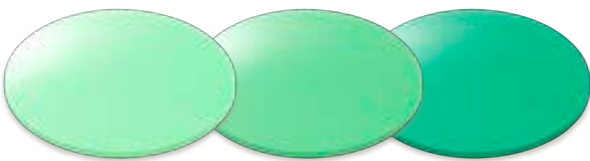
DESCRIPTION:

Blue lens that mainly absorbs yellow light. The focus of the transmission is on blue light.

OFTEN USED FOR:

Comfort, Neuro-visual problems.

ML EMERALD | LIGHT, MEDIUM, DARK



DESCRIPTION:

Green lens that absorbs the short-wave blue light and some of the yellow light. The focus of the transmission is on long-wave blue light and green light.

OFTEN USED FOR:

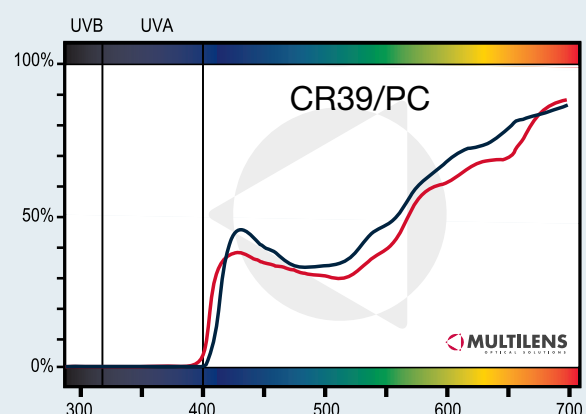
Comfort, Neuro-visual problems.

CR39 vs PC filter colours

Our CR39 lenses can be coloured with any ML Filter colour, and our colour curves are based on this material. Some of the ML Filter colours are also available in PC material and due to the different properties of the materials, the curves may slightly differ.

CR39 As close to the original curve as possible but the colour might fade over time. (Blue curve)

PC The colour is a simplification of the original colour but is resistant and durable over time. (Red curve)





AMD COMFORT

Combines filter and magnification for outstanding comfort

People with AMD (Age-related Macula Degeneration) are often offered standard optics, but for most people, a power correction is not enough. AMD Comfort is a special solution that combines a filter tint with reflex reduction and a small magnification.

RX and standard solution

AMD Comfort is available both as RX solutions and standard solutions with two different magnifications (AMD-I and AMD-II).

You can also choose to add polarisation or photochromic effect.

Comfort Filter

The filter is contrast enhancing, offers protection against UV light and reduces the blue components of visible light. The rest of the spectrum is retained which ensures natural colour vision. It also mitigates light sensitivity in bright daylight or sunlight.

Magnification

The AMD Comfort solution provides a magnification, significant enough to make a difference, but without affecting the visual field too much. The magnification is achieved with a special grinding technique, which makes the lens more curved and a bit thicker. AMD-I provides a balance between cosmetical appearance and magnification (app. 2-3 %). AMD-II provides more magnification (app. 5-6 %) but the lens is thicker.

Reflex reduction

Anti-reflection treatment is standard in AMD Comfort, improving comfort and decreasing glare.





Easy to try out

Let the patient experience the difference by either attaching an AMD Comfort Flip-Up or holding the AMD Comfort flirp in front of their spectacles.

Easy to order

The procedure to order an AMD Comfort lens is the same as for ordering a standard lens.

Easy to use

The AMD Comfort solution requires no adaption for the user. The customer will immediately be able to take advantage of better contrast, better visual acuity, and improved comfort.

Try out AMD Comfort

AMD COMFORT TEST BOX (09050)

Includes Flip-Up with AMD I and AMD II.

AMD COMFORT FLIRP (09037)

AMD Comfort Flirp oval with AMD I and AMD II

The AMD Comfort flirp is also included in Low Vision Test Box (art no 99041) and Reduced Vision Tool Box (art no 99034EN).





ML NIGHT COVER

- Filter ML LLR always included.
- Available with correction of night myopia (-0.25 and -0.50).
- Always with anti-glare on both sides (MultiCoat) for maximum light transmission and reduction of disturbing reflections.
- Can also be used as a blue light blocker for desktop and similar.

Frames

ML Night Cover is available as a cover frame, HangOn, and Flip-Up, which can all be used on top of your spectacles.

You can also order the ML LLR filter in any frame.



ML NIGHT COVER

Reduce disturbing lights when driving at night

Many people have problems with glare when driving in the evening or at night, not least from the increasingly common LED headlights that provide a more high-intensity, blue light than classic headlights.

ML Filters dim disturbing light and glare

For a more comfortable car ride in the evening, we have developed a special filter that reduces the blinding peak in the wavelength spectrum, but lets through as much of the remaining light as possible.

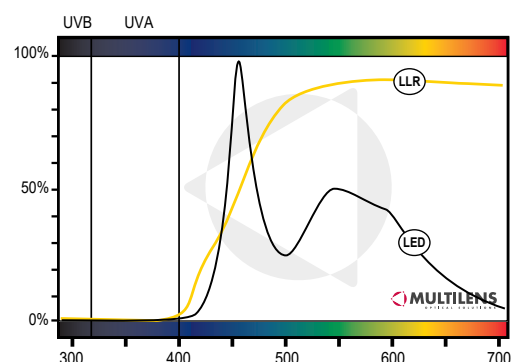
Exact colour

Many filters for driving in the dark are too yellow and have a great impact on colour vision. We have tried

out the ultimate balance between light reduction and light transmission for best vision.

Our filter is called ML LLR (LED Light Reduction) and can, like all filter colours, be added to the lenses in our lens program. This filter is standard in our special solution for driving, ML Night Cover.

This filter is classified for night driving and complies to ISO 8980-3 and ISO 12312-1.





ML BILUX

Alleviate the discomfort of photosensitivity

Photosensitivity is common and can cause pain in both eyes and head. The underlying causes may be an eye disease or a neurological disorder. Some photosensitivity is treatable, but many people need aids to dim the light.

Dark spectacles are one solution but are not ideal in all situations. Too dark spectacles might be a problem if the wearer wants to see the products in a shopping window, for example.

Filters are another option, but different filters might be needed for different light conditions or different distances.

To address this problem, Multilens invented the ML Bilux Product Family. We use different filters in different parts of the lenses in the same spectacles.

ML BILUX FRANKLIN

ML Bilux Franklin has different tints in the upper and lower parts of the lens.

Typically the upper section of the lens is darker (97 % dark) than the lower section (85 % dark).

The line between the two zones can be placed at any height.

ML BILUX IRIS

ML Bilux Iris is designed with a round section, right in front of the eye, that is lighter than the rest of the lens.

A common solution is a 97 % dark lens with a 10 mm zone of 85 % dark, right in front of the pupils.

ORDER ML BILUX

ML Bilux can be tailored to individual needs in a number of ways, which is why we have decided not to make a standard product.

Simply specify:

- The frame
- Type of glass
- Powers
- Filter colour or other colour, if required, including tint.
- PD and pupil height, although our default values work well in most cases (PD 60 mm and pupil height in the centre of the frame).

The ML Bilux products can be produced with coloured ML Filters instead of different levels of black. You can also choose ML Bilux with a correction or combine ML Filters with a photochromic effect. The options are endless!





FILTER SUNGLASSES

Not only for show

Whether your favourite hobby is skiing, beach volleyball, or fly fishing, filter sunglasses can enhance your experience. They provide high comfort, good contrast vision, and eye protection that far exceeds the minimum levels.

See better with filter sunglasses

At the same time as the filter lens absorbs the harmful and disturbing light, it lets in more of the harmless light.

QUICK FACTS ABOUT UV LIGHT

- High altitude affects UV radiation – it is 1.5 times stronger at 3,000 m.
- Also in the shade, the eyes are exposed to about 50 % of the sun's direct UV radiation.
- As much as 40 % of the UV light that reaches our eyes has been reflected from the surroundings and comes from the sides, bottom, cheeks and the inside of the sunglasses.

Compared to traditional sunglasses, filter sunglasses let more information through – and provides a better visual experience.

The filter increases the contrast, which is a great advantage in activities such as golf, shooting, cycling, skiing, fishing, or sailing.

We call it 'high vision'.

Standard solutions for sun

There are several standard solutions for the sun. Choose between cover frames, HangOn, and Flip-up, with different polarisation or photochromic effects.

See the next page for suggestions on which filter to recommend for each activity.





ML Filters for an active life



Water sports

Due to the reflections of the water surface, the eyes are exposed to extreme light in all types of water sports – even when it is cloudy.

On a sunny day at sea, the ML500 or ML511 in combination with a Pol 3 filter is the best choice. For less extreme light exposure, try the filter colour ML C1 in combination with Pol 1.



Winter sports

It is important to protect the eyes in all types of winter sports. The brightness on a sunny day with fresh snow at a high altitude can be 10 to 15 times higher than the light level that the eyes can handle.

The yellow ML450 with Pol 3 is a suitable filter combination that provides both good protection and good contrast vision, a great advantage when skiing in flat light.



Fishing

Filter glasses protect the eyes, both from flying hooks and reflective sunlight. But the most important argument for fishermen is probably that they see the fish better with the reflexes gone...

Many fishermen prefer ML511 or ML527 in combination with Pol 1 for good visibility by the water.



Golf

A round of golf can mean many hours of light exposure. In addition to protection against harmful and disturbing light, the filter provides better contrast vision – a great advantage when assessing distance or noticing unevenness in the ground.

Light orange ML500 with Pol 1 gives very good contrast vision, but many also like the light yellow ML C1 with Pol 1 where the colour reproduction is more natural.



Cycling

In addition to protecting the eyes, filter sunglasses increase contrast vision and the cyclist can make faster and better decisions. The lenses also reduce problems with squinting and tension.

ML500 with Pol 1 is excellent for mixed light conditions with both strong sunlight and shade.

“With filter sunglasses, it is possible to stay in strong sunlight for a long time, without having to squint or risk a headache”

MEET JOHAN SUNDBERG

Professional hiking guide

In his job as a hiking guide, Johan Sundberg is exposed to extremely strong sunlight for long periods. The tours take place at high altitudes in the Alps, in the Atlas Mountains, at the Mediterranean Sea, or in the Jordan Desert. After 22 years as a professional guide, he knows how important it is to protect the eyes.



– Cheap sunglasses from the supermarket can do more harm than good. It is two very different experiences when you compare them to really good sunglasses. Sunglasses are at least as important a detail as the boots!

There are different light conditions in the Alps, at an altitude of 3000 meters, than in the Swedish mountains. Due to the extensive exposure to UV light and blue light, Johan prefers to use filter ML450 in combination with Pol 3 – a powerful filter and the darkest possible polarisation.

– After 10 hours at high altitude, among ice, sun, and snow, I used to get tension headaches, even though I wore sunglasses with protection class 4.



”Sunglasses are one of the most important parts of my equipment.



JOHAN SUNDBERG
PROFESSION: MOUNTAIN
LEADER, HIGH ALPINE
TREKKING GUIDE, AND
EXPEDITION LEADER.

With my ML Filter glasses, I feel completely relaxed and do not have to squint.

The filter sunglasses became a completely new experience for Johan, who already from the first time he tried them on noticed a big difference.

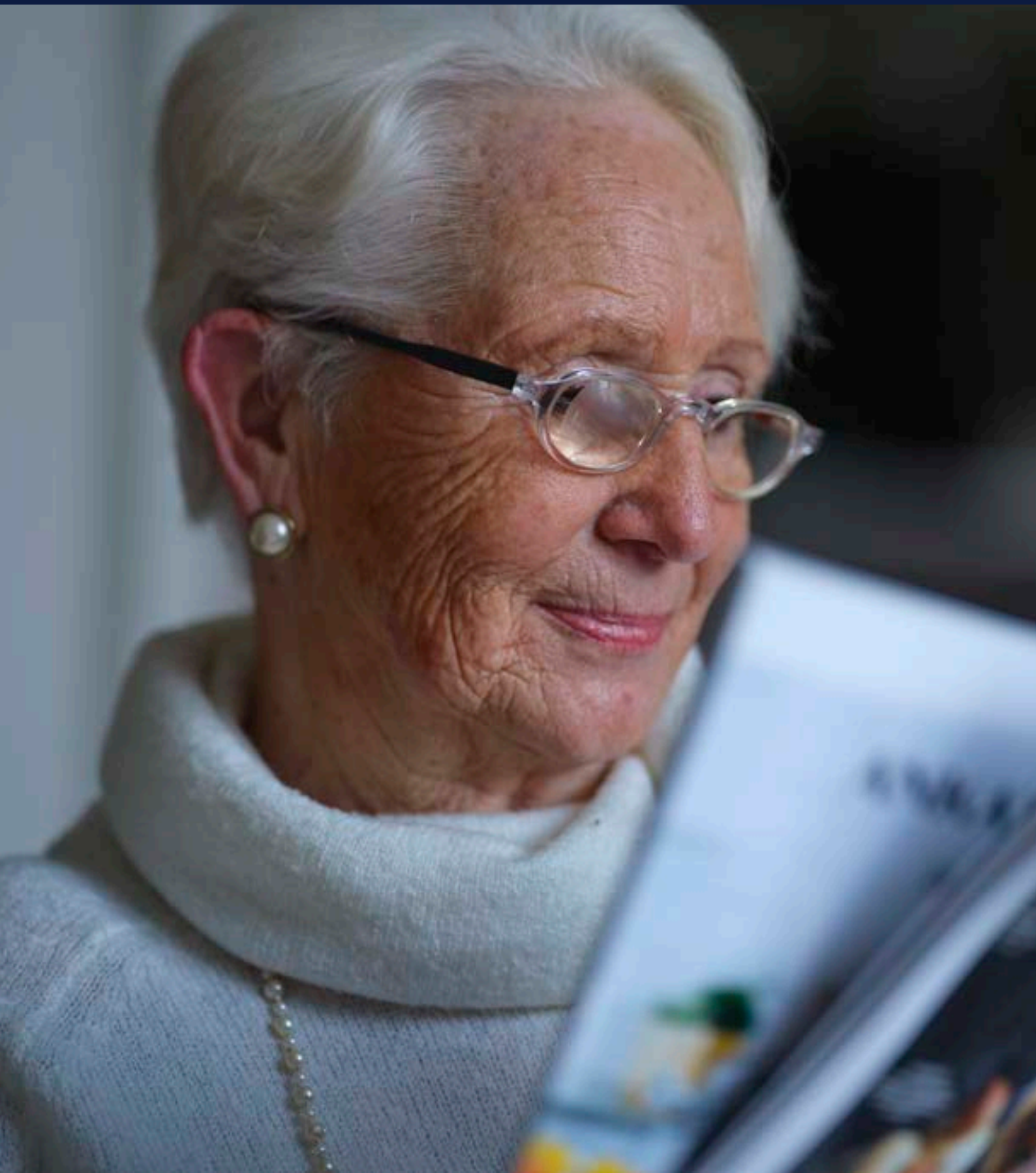
– The lenses are by far the best I have had. At first, they felt a little bright, but I noticed how my face relaxed.

Johan has previously used sunglasses according to the motto "the darker the lens the better".

– I used very dark sunglasses but I was not allowed to drive with them. It was almost like welding goggles. With filter sunglasses it is different. Even though they protect so well, they are never too dark. I can wear them all the time – in changing clouds and when skiing.

Johan also appreciates the contrast-enhancing properties of the filter lens.

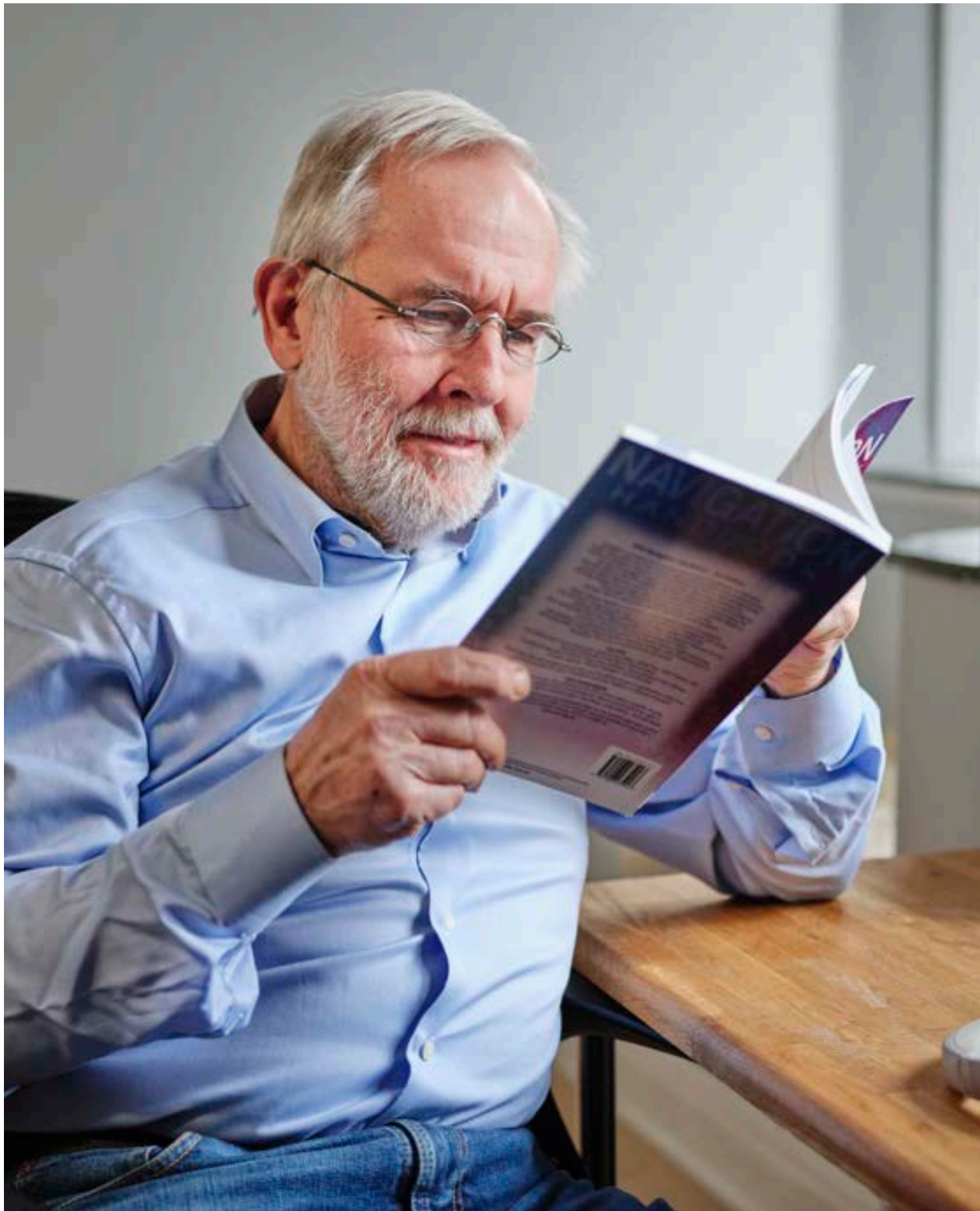
– When you move in high alpine terrain with moraine stones, it is important to see the surroundings well, even when it is hazy or cloudy, Johan explains. The filter glasses raise the contour vision enormously – not least in rough block terrain where it is really important to keep track of where you put your feet.





Reading Solutions

Reading solutions	92
ML Binova	96
ML Mono	98
ML Sight Optimizer	99





READING SOLUTIONS

Wide range of powers

Help your customer choose the right reading spectacles

With a myriad of low-cost and easy-to-get readers out there, why bother asking your optometrist about them? The simpler readers may work for a while, but for truly relaxed and comfortable reading, more customised solutions are required.

Some individuals need higher powers or solutions tailored for vision in only one eye. Explore our range of reading solutions, with the flagship ML Binova leading the way, and we promise that your customers or patients can enjoy more quality time with their books, magazines, and close-up tasks.

Read more at [multilens.com](https://www.multilens.com)





ML BINOVA

ML Binova is optimised for a relaxed reading experience

The ultimate reading experience is dependent on many parameters, such as correct level of magnification, best possible image quality, widest possible visual field, prism compensation, PD and improved contrast level. All these aspects are considered in ML Binova.

We offer ML Binova for all type of eyes.

- **Wide power range**
ML Binova is available in standard powers from +3.0 D up to +16 D. It is also possible to order ML Binova with individual prescriptions (see ML Binova RX).
- **Prism optics**
High addition means reading up close. The close distance requires a lot of eye convergence, which can lead to strain. Relieving comfort prisms help the convergence at near distance.
- **Filter for better comfort**
It is possible to add a filter colour for increased contrast.
- **High-quality frames**
All ML Binova frames are high-quality frames developed for the best reading comfort – lightweight, durable and with flexible temples.





ML BINOVA | STANDARD POWERS

Easy

ML Binova in the frame Half-11 is the entry-level within the Binova product group.

This value range covers additions from +3.0 D to +8.0 D.

POWER RANGE

+ 3.0 to +8.0 D

INTENDED USE

70-12 cm

FRAMES

Half-11



Pro

ML Binova is also offered at a premium level, featuring an extended range of frames and powers.

The premium range covers additions from +3.0 D to +16.0 D.

POWER RANGE

+3.0 to +16.0 diopters

INTENDED USE

33-8 cm

FRAMES

Athens

Oslo

Half-12

Half-13

Half-14



ML BINOVA RX | CUSTOM POWERS

ML Binova RX is the category if you need something outside the standardised options. Examples of cases where you might need ML Binova RX:

- When a large cylinder power is needed. Normally, at higher additions, cylinder power has less effect on vision. But if you need to incorporate a cylinder, ML Binova RX is needed.
- In case of anisometropia, ML Binova RX makes it possible to fully correct both eyes.
- If the patient needs a filter colour in their ML Binova glasses.

POWER RANGE

Up to +20.0 D cyl – 10.0

INTENDED USE

33-12 cm



ML MONO

For those who rely on one eye

ML Mono is reading glasses with high powers (more than +5.0 D) for one eye. The other lens is a plano lens or an occluded lens. ML Mono is intended for people with vision in one eye only or when the addition is too high to have binocular vision.

The short reading distance magnifies the retinal image and makes it possible to see small details.

- ML Mono makes it possible for people with visual impairment to read magazines, newspapers, or books. If more magnification is needed, ML A2 or ML Aplanat might be an option (see page 104).
- Individual adjustment of pupilar distance is not necessary since only one eye is used. Therefore standard solutions can be used by most people.
- Often used for hobby purposes and can be compared with magnifiers. The important difference is that the magnification is placed in head-worn optics and the hands are free.
- Available in five robust frames suitable for a wide range of users.





ML SIGHT OPTIMIZER

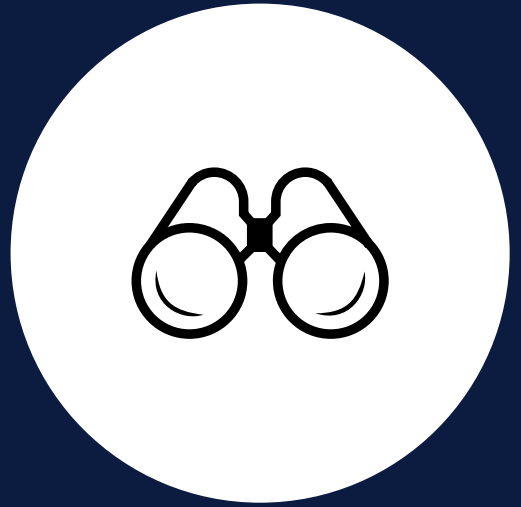
For an extra power boost

ML Sight Optimizer can be used over your regular spectacles when a little extra power is needed. They provide extra addition and have convergence prisms for comfortable near vision. They are coated with Prima+ for clearer rendering and less distortion. The flexible temples ensure that the spectacles sit firmly without pressing uncomfortably on the head.

- Extra addition when required, for better and more ergonomic vision.
- Relieving prism for a more relaxed vision at near.
- Open frame with clear optics throughout the lens to optimise the vision at near distance.
- Smart and neat frame designed to fit most spectacles. The titanium material makes it light and durable. Flexible temples to avoid the frame pressing against the head.
- All ML Sight Optimizer lenses are treated with ML Prima+ coating, facilitating a clear image without visual disturbances.







Low vision aids

Systems – Near	102
ML Aplanat & ML A2	104
Systems – Distance	106
ML Vidi	107
ML Focus	108
ML Combi	110
ML RP	112
ML Bi2	113





LOW VISION AIDS

Low vision solutions for a smoother everyday life

When someone wants to perform everyday tasks such as reading, cooking, doing needlework, or navigating outdoor spaces, it can be helpful to have their hands free.

Our head-mounted systems provide adaptable magnification solutions tailored to meet a diverse range of needs.

We also provide a selection of magnifying glasses, binoculars and other visual aids from Schweizer, but we do not have the rights to sell Schweizer products outside of Sweden.

Read more on [multilens.com](https://www.multilens.com)





How to measure ML Aplanat and ML A2

Historically these two systems have been measured in different units, but today they are both measured in Equivalent Power (EP).

Older test boxes have the previous type of measuring so to avoid re-calculation, we recommend you to use the new test box (article number 99039).

The test box includes both systems and a short guide for easy comparison between the former and the current measuring units.

ML APLANAT AND ML A2

When extreme addition is needed

ML Aplanat and ML A2 are two near-distance options for people with low vision. Both are aplanatic systems, but they are designed in slightly different ways.

Similarities and differences

The two lenses (front and back) in ML Aplanat have the same diameter, and the correction is placed inside the system. The system's diameter slightly limits the choice of frames but offers a few degrees wider visual field.

In ML A2, the back lens of the system has a smaller diameter, which makes it easier to fit in any frame. The smaller diameter also allows for higher powers.

ML APLANAT / A2 TEST BOX ART NR 99039





ML APLANAT

People with low vision usually wish for high magnification and a wide visual field – a wish that is difficult to fulfil since strong magnification usually means that the image is distorted at the edge of the visual field.

ML Aplanat solves the problem by dividing the power into two aplanatic lenses. This combination allows for high magnification and minimal image distortion.

ML Aplanat is a monocular lens system with high image quality and a large field of view at short distances.

MAGNIFICATION	CORRECTION RANGE
3-8X	Cyl -6
VISUAL FIELD	INTENDED USE
46°	12 - 3 cm
SYSTEM POWER	WEIGHT
+12 to +32 D (Equivalent Power)	20 g



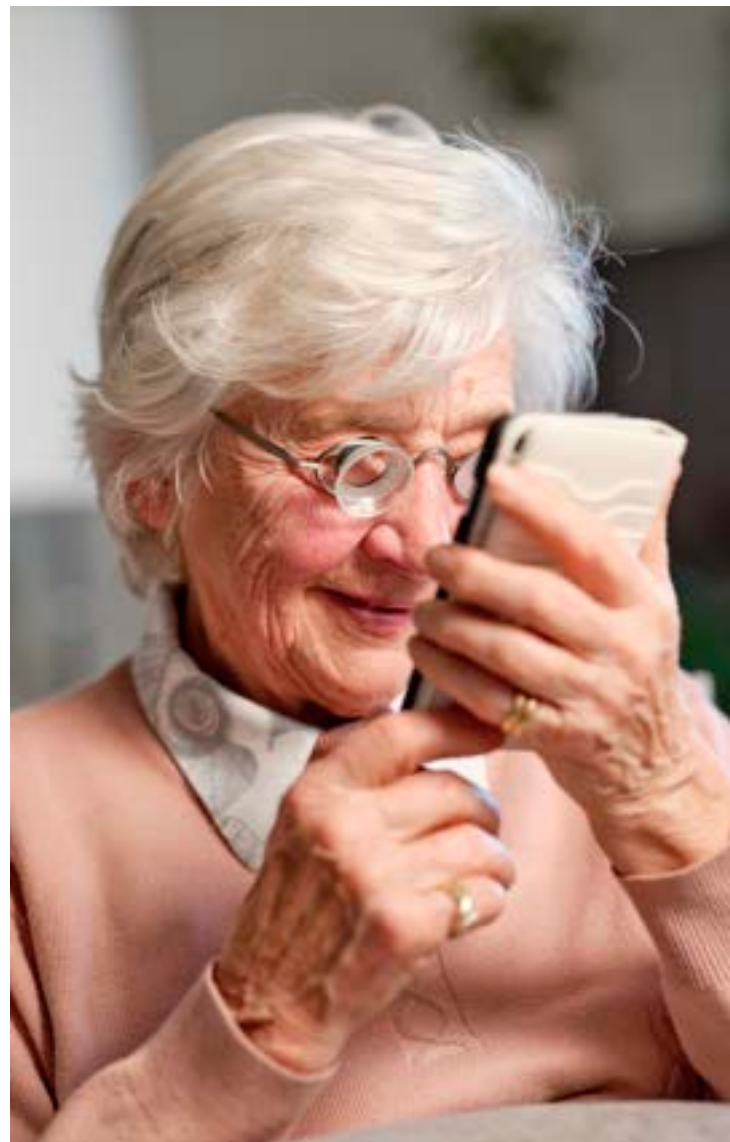
ML A2

The visual field is essential for a person with low vision. It affects orientation, comfort, and reading speed, but it is usually difficult to combine high magnification and a wide visual field.

ML A2 is a monocular optic system for a short distance. It is designed to maintain the field of view even though the system can magnify as much as 13 times.

The patient's correction can also be added, and the system can be mounted in almost any frame. With this system, it is also easy to add a cylinder correction.

MAGNIFICATION	CORRECTION RANGE
3-13X	Cyl -10
VISUAL FIELD	INTENDED USE
44°	10 - 2 cm
SYSTEM POWER	WEIGHT
+12 to +52 D (Equivalent Power)	20 g







ML VIDI

Comfortable screen solution for people with low vision

ML Vidi is an optical system that has slightly less than double the magnification. By combining this magnification with a very wide visual field, it is possible to get closer and still see the whole object.

Thanks to its front lenses for different working distances, ML Vidi can be used for many different activities, for example, watching TV, reading on a computer screen or mobile phone. The basic system should be adjusted to the distance that is used the most. Front lenses then allow the focus distance to be changed simply and quickly.

The lenses are available in powers that adjust from far distance down to 10 centimetres, and in two versions – fixed or flip-up.

The patient's own correction can be added, and the system can be mounted in almost any frame.



FIXED FRONT LENS



FRONT LENS WITH FLIP-UP

MAGNIFICATION
1.6X or 1.8X

VISUAL FIELD
36°, 25°

CORRECTION RANGE
± 20 cyl -10

INTENDED USE
35 cm - ∞
(Standard 2 m)

WEIGHT
14 g



ML VIDI/FOCUS TEST BOX

ART NR 99040

Contains a selection of lenses
for your test session and
a fitting guide.



MAGNIFICATION

1.7X: 1.6X - 2.0X

1.9X: 1.7X - 2.4X

VISUAL FIELD

1.7X: 38° (40° - 28°)

1.9X: 25° (28° - 18°)

CORRECTION RANGE

±10 cyl -10

INTENDED USE

35 cm - ∞

WEIGHT

19 g



ML FOCUS

Full flexibility with variable focus

ML Focus is a versatile magnifying system. The focus can be adjusted to different working distances with a simple turning motion. ML Focus magnifies up to 2.4 times.

The system has a large visual field which makes it possible to get close to the object and still see it in full. In addition, the shorter distance itself gives a magnification, which makes the actual magnification on the retina larger.

The patient's own correction can be added, and the system can be mounted in almost any frame.

**ML VIDI/FOCUS
TEST BOX**

ART NR 99040

Contains a selection of lenses for your test session and a fitting guide.









ML COMBI

Small magnification – big difference in everyday life

ML Combi is a type of galilean system that magnifies less than optical systems usually do. In turn, it allows for the field of view to remain large. This makes it easier to orient and perform daily activities such as needlework, cooking or eating.

With ML Combi, you get an overview without having to move your head.

The patient's own correction can be added, and the system can be mounted in almost any frame.

ML Combi is also available for near distance:
Combi Short Testset 99012.



MAGNIFICATION
20% or 40%

VISUAL FIELD
58° or 48°

CORRECTION RANGE
±8 cyl -3

INTENDED USE
Intermediate distance

WEIGHT
10 g

**ML COMBI
20/40 TEST BOX**
ART NR 99982

Contains four systems for
test sessions with
patients.





MAGNIFICATION
0.5X

VISUAL FIELD
54°

CORRECTION RANGE
± 8 cyl -4

WEIGHT
4 g

ML RP

Scales down image for better overview

People who have a reduced visual field are not helped by magnification. Rather, they need a system that scales down the image to make it fit into their limited visual field.

ML RP is an inverted Galilean system with a magnification of 0.5X.

It is often used for tunnel vision caused by Retinitis Pigmentosa, and widens the visual field in the same way as a door peephole does.

The patient's own correction can be added to the system.

ML RP TEST SET

ART NR 72902

Contains an RP system in an oculus ring.





ML BI2

Headworn binoculars – when needed

ML Bi2 is a small binocular system placed in the upper part of the frame for a temporarily enlarged image, for example to see a house number in the distance.

Powers can be obtained in both the lenses and in the system.

In some markets it is allowed to drive with this system. Please check your local regulations.

**ML BI2 2.0X
TEST SET**

ART NR 75801

Contains a Bi2 system in an oculus ring.



MAGNIFICATION
2.0X or 2.5X

VISUAL FIELD
2.0X: 20°
2.5X: 15°

CORRECTION RANGE
± 10 cyl -6

INTENDED USE
∞ - 2 m

WEIGHT
38 g

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