



Close reading binocularly



**POWER RANGE:**  
+4 to +16 diopres

**VISUAL FIELD:** >70°

**TOTAL WEIGHT:** 26 – 34 grams

**WORKING DISTANCE:**  
25 – 8 centimetres

Looking at an object at a closer distance makes the image on the retina larger. This can be useful when doing handicrafts or close up work or if necessitated by visual impairment. When both eyes are used for stereo vision, the short distance strains the musculature of the eyes. ML Bino are strong reading glasses with a built in prismatic effect. This means that the light is diffracted and the image is moved outward, thereby reducing the need for convergence. It is thus possible to use both eyes despite high magnification.

We now also have a bifocal version of ML Bino that we call ML Bino Bifo.



**› CYLINDER AND ANISOMETROPIA**

Normally the greater the addition created by the device, the less the influence of an uncorrected cylinder. Minor differences in power between the right eye and the left eye are more accepted by the patient when the addition increases. This is why the ML Bino standard presents a simple solution. However, the patient often finds that performance is even better when the individual power is incorporated. ML Bino can easily be ordered with an individual sphere, cylinder and prism. The more accurate the incorporated correction, the better the image quality on the retina, with an overall positive effect on performance, comfort and reliability.

**› READING DISTANCE**

Reading distance is important since it determines how much prism is required. The distance depends on the power of the device and the patient's refractive error.

**Example**

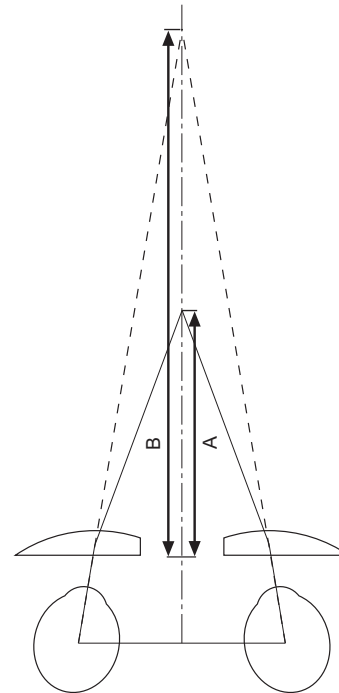
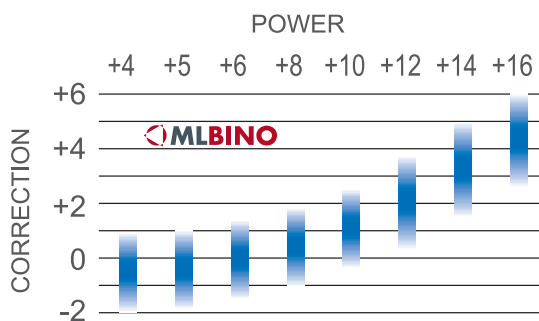
Patient A requires a base refraction of + 3 right and left. A device of + 8 gives an addition of + 5 and a reading distance of 20 centimetres.

Patient B requires a base refraction of - 2 right and left. Here the device of + 8 gives an addition of + 10 with a reading distance of 10 centimetres.

The diagram shows when an ML Bino standard could be used based on the patients refractive error.

ML Bino +8 normally functions well at spherical refractions of -1 and +2.

ML Bino Special should be considered for refractions outside the blue fields, if a cylinder is required or if there are right and left differences.



**› CONVERGENCE AID SIZES**

These devices give the wearer binocular vision at close distances. The table and illustration 1 below show the convergence aid for an emetropic patient.

Distance A states the distance of the focused object. Distance B states where the eyes' axes coincide after the convergence aid.

For example, ML Bino +8 gives a focus distance of 12.5 centimetres for an emetropic person, but the eyes' convergence angle corresponds to looking at an object at a distance of 21 centimetres.

| Dioptres | Distance A | Distance B |
|----------|------------|------------|
| +4       | 25.0 cm    | 35 cm      |
| +5       | 20.0 cm    | 30 cm      |
| +6       | 16.7 cm    | 25 cm      |
| +8       | 12.5 cm    | 21 cm      |
| +10      | 10.0 cm    | 18 cm      |
| +12      | 8.3 cm     | 15 cm*     |
| +14      | 7.1 cm     | 12 cm*     |
| +16      | 6.2 cm     | 10 cm*     |

\*+14 and +16 is normally too strong an addition for an emetropic patient and +12 is borderline. See the recommendation in table 1 above.

**› PRISM**

The prism is meticulously measured and edged to fit into the frame in order to avoid vertical prism, which causes problems and discomfort for the patient.

### › FILTER AND COATING

Performance and comfort can be further enhanced by colouring the lenses with an ML Filter and/or coating them with our ML Prima.

### › PD AND CD

The position of the eye in relation to the optical centre (CD) of the lens influences how much prism is created by the lens. When one eye looks through an optical plus lens with the optical centre placed nasally, the resulting prism will be base in.

The same principle applies for the opposite. A user with a large pupil distance (PD) will have more prism base in than a user with a small PD if they use the same reading glasses. A person with a large PD needs to converge more in order to read at the same distance as a person with a small PD. A calculation shows that the positive effect is cancelled by the negative one. These devices produce the same effect for PDs between 55 and 65 millimetres.

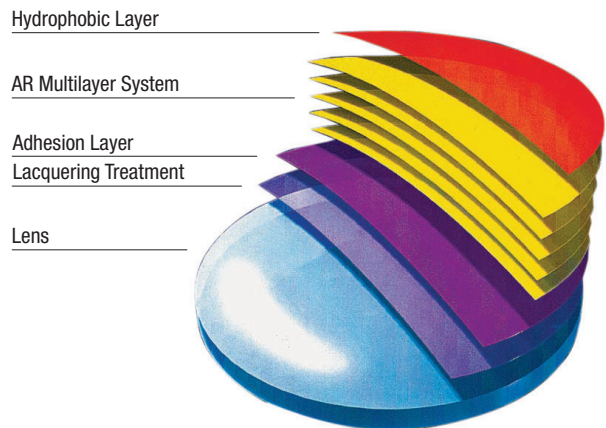
### › FRAMES

The frames have a fashionable design, spring hinges and are available in metal or acetate. The shaped bridge ensures optimal comfort.

Right and left H-3 and H-4 are identical in shape, which is advantageous in a monocular system as the lens can be moved to the other side. The size is also the same, making it possible to switch the lenses between acetate and metal frames. The front of the acetate frame is transparent. The temples are black, blue or red for H-4, brown

for H-2 and grey or red for H-5. This makes it easier for someone with visual impairment to find them.

The metal frame has black temples and an antique silver front.



### › LENSES

All lenses are made of CR39 with an aspheric front curve. An omega type lens is used from +8 to make them look cosmetically more attractive.

### › ORDERING ML BINO SPECIAL

When ordering customised ML Bino Specials, specify the total power plus the obtained addition or equivalent reading distance. This information enables us to calculate and incorporate the correct prism.

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ML Bino Bifo is a bifocal version of ML Bino. Bino Bifo enables binocular reading at shorter distances with two different additions. The upper section allows wearers to look at larger text and find their way around the page and the lower section is used for reading small print.

The prisms in the different sections are accurately aligned to ensure greater prism in the lower section to compensate for the shorter reading distance!

The correction limits for Bino Bifo standard are +3/+6 or +5/+8 in a semi-5 frame. Bino Bifo can also be custom-made to individual requirements.

**Addition range in the basic design:**

+3/+6 or +5/+8

**Visual field:** 70°

**Weight:** 26-34 grams

**Reading distance:** 33 – 12 cm



Multilens is a specialist optical company unique in the global marketplace. Our business concept involves the special grinding of unusual glass. This means that we deliver custom made optical solutions to people with sight issues.

Our core specialities are the eye, vision and visual function. Our attitude is that no problem is too difficult to solve. Our objective is to play a vital role in eye care.

That is why we work with opticians, orthoptists and optometrists, offering the best optical solutions to people with sight problems. We will never stop listening and learning and we are pleased to share our knowledge.