

Hand-held optical magnifier

Device consists of one or more lenses placed between the eye and the objects to be viewed. It enlarges the image for near viewing. The lens is a high-powered-plus lens, fitted in a plastic or metal body with a handle. The power of magnifier is denoted as X, which symbolizes the extent of the enlargement offered by a magnifier (e.g. 2X means that the magnifier will increase the image size by two times of original size). Hand-held magnifiers are generally available from 1X to 20X. The shape of the frame in which the lens is fitted can be rectangular or round. The round frame is available in different diameters. The grips are ergonomically designed for easier handling. Some magnifiers have rubberized grips.

The lenses can be either glass or acrylic. The acrylic lenses are much lighter in weight than the glass lens and provide better scratch resistance.

- Product Classification

- APL (WHO Assistive Product Priority List): 22 (Magnifiers, optical)
- ISO 9999:2022: 220309 (Magnifier glasses, lenses and lens systems for magnification)

- Possible configuration variants

None specified.

- Possible accessories or optional components

- Internal illumination and batteries.

- Product goals

Activities or functions the product is mainly intended to support, according to WHO ICF Classification:

- Reading [d166].

- Indicated impairments

Difficulties the product is mainly intended to address, according to the WHO ICF Classification:

- Seeing [b210].

- Contraindicated impairments

Difficulties for which the product may be inappropriate:

- Tremors (using the product requires accurate and steady handling; the lens must be held at the correct focal distance in order to obtain the maximum power; tremors may prevent from maintaining focus).

- Indicated environments

Specific environments in which the product should be used:

None specified.

- Contraindicated environments

Environments in which the product may be inappropriate:

None specified.

- Other indicated factors

Other factors or situations the product is intended to address:

None specified.

- Other contraindicated factors

Other factors or situations in which the product may be inappropriate:

- Reading a book for a long time (it puts a strain on readers and makes them tired).

- Points to be considered in product selection

- Consider the advantages of an optical magnifier: variable eye to lens distance; normal reading distance; convenient for short term tasks; it is readily available and inexpensive; the device may have its own light source, thereby also improving contrast; portability.
- Appropriate magnification systems should be determined for the user with low vision; based on the needs of the user, magnification may be required for near or distance visual acuity improvement, or both.
- The required level of magnification is usually task-specific, in other words, it may vary for different activities.
- Can be used with distance and near glasses for providing extra magnification.
- **Points to be considered in product fitting**
 - When training the user in the use of the device, explain how the new low vision aid should affect tasks that the user would like to perform.
- **Points to be considered in product use**
 - The individual can move the device around the print or object and will be able to see an enlarged image of the target. One hand is in use.
- **Points to be considered in product maintenance / follow-up**
 - The lens must be kept clean for better visibility: it can be cleaned with a soft microfiber cloth to prevent any scratches.
 - Magnifiers with glass lens should be carried around with care as a drop may damage or break the lens
- **Examples of products available on the market**
 - Live product search in the EASTIN website <https://www.eastin.eu/en/searches/products/list?iso=220309>

Source

This Fact Sheet was compiled in 2021 by an international team of experts, to provide the initial knowledge base for a project ("An online system to assist the selection of assistive product") supported by the World Health Organization in 2020-2021 within the GATE Initiative (Global collaboration on Assistive Product). Fact Sheets were compiled for each of the 50 types of products included in the WHO APL (Assistive Product Priority List).

The team was composed of Renzo Andrich (Italy, group leader), Natasha Layton (Australia), Stefan von Prondzinski (Italy), Jerry Weisman (USA), Silvana Contepomi (Argentina) and Hasan Minto (Pakistan).

The project led to a prototype online tool called ASPREX (ASsistive PProduct EXplorer). At the end of the project, it was transferred to a WHO collaborating center (the Global Disability Hub in the UK), in view of possible future developments.