Illuminated magnifiers for industrial applications
Magnification is essential to a large number of industrial procedures

Modern manufacturing includes all intermediate processes required for the production and integration of a product’s components. Many of the procedures in a value chain require the use of illuminated magnifiers, including assembly, inspection and process control.

Many industries such as the electronics industry are particularly sensitive to electrostatic discharges (ESD), and need to establish measures to remove static such as grounding human workers and providing antistatic tools. ESD-safe magnifiers are a welcome feature in these industries. This also applies to many maintenance, repair and overhaul procedures.

The history of our illuminated magnifiers
Our history of lighting for the individual began with the development of the Luxo L-1 task light in 1937. The freedom of movement and the ability to place the light exactly where it was needed, forever changed the way task lights work.

L-1 was designed by Luxo’s founder, the industrialist Jac Jacobsen, and is still in production. The lamp arm is balanced by springs that work on the action and reaction principle of human arm muscles. Jac Jacobsen soon realized that his spring balanced arm would carry a variety of different luminaires for various purposes, including illuminated magnifiers. The decades following World War II saw the development of a range of illuminated magnifiers for industrial applications, therapy and cosmetology, low vision and the healthcare sector.

Modern range of arm-based magnifiers
Naturally, our range of products has been vastly expanded since those early days. However, the philosophy and knowledge from the development of the L-1 is being maintained in our modern products. Today our range of illuminated magnifiers comprises a wide variety of arm technology, with or without visible springs. They all have perfect balance, and careful ergonomics built into them.

This L-1 L magnifier was manufactured in 1955. It is still in daily use. We pioneered the development of illuminated magnifiers for industrial use.
Our magnifiers are especially designed for maximum horizontal and vertical movement. They provide maximum horizontal reach, and will always stay in the right position without drifting. The arms are balanced by spring systems which ensure smooth and easy positioning.

The ability to place the lens and direct the light exactly where it is needed is a hallmark of our illuminated magnifiers. The flexibility of the lamp head means that it is easy to adjust the magnifier for your personal needs.

Friction free lamp head movements:
It is the combination of arm and head movements that determines the degree of flexibility in a magnifier. Our magnifiers are highly flexible, offering a combination of the three all-important head movements:

- Horizontal side-to-side movement (yaw).
- Up and down movement (tilt).
- Rotation around a horizontal axis (roll).

The flexibility of the self-balancing arm and friction free joint between lamp head and arm makes exact positioning easy.

Perfect balance, maximum flexibility

At Glamox Luxo we know how important light is for the working environment and for the individual's health and wellbeing. Good lighting reduces the risk of health problems, increases safety, and enhances productivity.

For this reason we place great importance on the light quality of our illuminated magnifiers. They are not just magnifiers with light, but powerful luminaires with excellent light output. The quality and exact positioning of the light sources in relation to the lens allows for virtually shadow-free magnification and excellent colour rendering capabilities.

LED: Light source of the future
During the last few years we have designed, developed and manufactured a new generation of luminaires, using LED instead of traditional light sources. Light Emitting Diodes (LED) are semiconductors that emit light when an electric current passes through them. LEDs can be used on their own, or assembled into modules for added power.

Our modern LED magnifiers are designed to provide the best possible ergonomics, while saving energy. They use only a fraction of the energy required by luminaires with traditional light sources.

Light emitting diodes have an incredibly long life span. The diodes in our LED magnifiers have a life expectancy of 50,000 hours. That means 25 years or more with normal use.

The importance of light quality
Magnification is the process of enlarging something only in appearance, not in physical size.

We offer a range of illuminated magnifiers for different applications. These have lenses of different shapes and sizes, made of a variety of materials including polycarbonate and glass of various qualities. They all provide magnification in accordance with the established standards for lens manufacturing (see our short dictionary). Please refer to the product guide to determine which model is right for your needs.

Using a Luxo magnifier
Our illuminated magnifiers are working tools. They are designed for precision and comfort. We recommend using both eyes whenever possible. In order to achieve maximum magnification without distortion, the user should position the lens a proper distance from the object, and fairly close to the eyes. Do not lean back away from the lens in order to increase magnification.

Chair height and work surface should be adjusted for good posture.

About magnification

Dictionary

Magnification
The degree to which a viewed object is enlarged. Expressed in percentage or by the symbol X. 100% magnification = 1X magnification, i.e. the object appears to be twice its actual size.

Diopter
Diopter is an optical term referring to the refractive (light bending) capacity of a lens. Each diopter increases magnification by 25%.

Focal length
Focal length is the distance from the centre of the lens to the viewed object when in focus. As magnification increases, the focal length decreases.

Choice of magnification
The degree of magnification will vary with the task at hand. With low level magnification an object can be studied without blurring of the object’s edges. With increased magnification even small details are clearly visible, but the blurring of the edges increases.

This table provides a complete overview of the total magnification options available by adding secondary lenses to our illuminated magnifiers.

Magnification table

<table>
<thead>
<tr>
<th>Primary lens diopter</th>
<th>Secondary lens diopter</th>
<th>Total magnification</th>
<th>Magnification in %</th>
<th>Focal length</th>
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Product guide

Wave LED

Industrial LED magnifier with 3D feature

Wave LED is a magnifier for industrial applications. Wave LED offers shadow-free magnification with light coming from both sides, as well as three-dimensional magnification with light coming from the left or right. The 3D feature is especially welcome when working with circuit boards and similar delicate objects. With its rectangular lens, Wave LED is also suitable for reading purposes.

Technical details

Light source: Supplied with 2 x integrated LED modules of 6W. Correlated colour temperature (CCT) is 4000°K. Colour rendition index (CRI) is 80.

Body material & colour: Steel arm, shade in aluminium. Colour: White or light grey.

Mounting: Standard with table clamp (AH clamp). Other table clamps, integrated table mounts and trolley are available on request.

Optics: Standard with 3.5 or 5 diopter crown glass lens.

Secondary lenses: For additional magnification a secondary suction lens of 4, 6 or 10 diopters can be attached to the glass lens.

Power supply: Supplied with cable and plug.

Arm technology & movement: Parallel, three-pivot arm. Arm length is 105 cm.

Timer and dimming: Wave LED is equipped with step dimming 0%-50%-100%. A shut-off function is integrated. The light will automatically shut off after 4 or 9 hours.

Article numbers

| WAL025948 | Wave LED T105 Wa 206 840 3.5D CLA EU |
| WAL025949 | Wave LED T105 lg 206 840 3.5D CLA EU |
| WAL025950 | Wave LED T105 Wa 206 840 5D CLA EU |
| WAL025951 | Wave LED T105 lg 206 840 5D CLA EU |

Wave LED ESD

ESD-safe industrial LED magnifier with 3D feature

Wave LED ESD is especially made for the electronics industry where electrostatic discharges can prove fatal for electronic components. It is designed to drain away static charges as they occur in a controlled manner. Wave LED ESD offers shadow-free magnification with light coming from both sides, as well as three-dimensional magnification with light coming from the left or right. The 3D feature is especially welcome when working with circuit boards and similar delicate objects.

Technical details

Light source: Supplied with 2 x integrated LED modules of 6W. Correlated colour temperature (CCT) is 4000°K. Colour rendition index (CRI) is 80.

Body material & colour: Steel arm, shade in aluminium. Colour: Black.

Mounting: Standard with table clamp (AH clamp). Other table clamps, integrated table mounts and trolley are available on request.

Optics: Standard with 3.5 or 5 diopter crown glass lens.

Secondary lenses: For additional magnification a secondary suction lens of 4, 6 or 10 diopters can be attached to the glass lens.

Power supply: Supplied with cable and plug.

Arm technology & movement: Parallel, three-pivot arm. Arm length is 105 cm.

Timer and dimming: Wave LED is equipped with step dimming 0%-50%-100%. A shut-off function is integrated. The light will automatically shut off after 4 or 9 hours.

Article numbers

| WAL025964 | Wave LED T105 Bl 206 840 3.5D CLA ESD EU |
| WAL026064 | Wave LED T105 Bl 206 840 5D CLA ESD EU |
**KFM LED**

**Advanced multi-purpose LED magnifier**

KFM LED has a robust all-metal construction with sleek design, a flexible arm and excellent light output. It is suitable for all industrial purposes, for work in beauty parlours, clinics and laboratories, and as a tool for people with impaired vision. The flexibility of the joint between lamp head and arm makes exact positioning easy. The quality and exact positioning of the LEDs allows for virtually shadow-free magnification and excellent colour rendering.

**Technical details**

- **Light source:** Supplied with 2 semi-circular LED modules with a total energy consumption of only 11W. Correlated colour temperature (CCT) is 4000°K. Colour rendition index (CRI) is 80.
- **Body material & colour:** Steel arm, shade in aluminium. Colour: White or light grey.
- **Mounting:** Standard with table clamp (AH clamp). Other table clamps, integrated table mounts and trolley are available on request.
- **Optics:** Standard with 3 or 5 diopter crown glass lens.
- **Secondary lenses:** For additional magnification a secondary suction lens of 4, 6 or 10 diopters can be attached to the glass lens.
- **Power supply:** Supplied with cable and plug.
- **Arm technology & movement:** Parallel, three-pivot arm. Arm length is 1.05 cm.
- **Timer & dimming:** The LED modules are dimmable 1–100%. A shut-off function is integrated. The light will automatically shut off after 4 or 9 hours.

**Article numbers**

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**KFM LED ESD**

**ESD-safe industrial LED magnifier**

KFM LED ESD is especially made for the electronics industry where electrostatic discharges can prove fatal for electronic components. It is designed to drain away static charges as they occur in a controlled manner. KFM LED has a robust all-metal construction with sleek design, a flexible arm and excellent light output. The flexibility of the joint between lamp head and arm makes exact positioning easy. The quality and exact positioning of the LEDs allows for virtually shadow-free magnification and excellent colour rendering.

**Technical details**

- **Light source:** Supplied with 2 semi-circular LED modules with a total energy consumption of only 11W. Correlated colour temperature (CCT) is 4000°K. Colour rendition index (CRI) is 80.
- **Body material & colour:** Steel arm, shade in aluminium. Colour: Black.
- **Mounting:** Standard with table clamp (AH clamp). Other table clamps, integrated table mounts and trolley are available on request.
- **Optics:** Standard with 3 or 5 diopter crown glass lens.
- **Secondary lenses:** For additional magnification a secondary suction lens of 4, 6 or 10 diopters can be attached to the glass lens.
- **Power supply:** Supplied with cable and plug.
- **Arm technology & movement:** Parallel, three-pivot arm. Arm length is 1.05 cm.
- **Timer & dimming:** The LED modules are dimmable 1–100%. A shut-off function is integrated. The light will automatically shut off after 4 or 9 hours.

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More Luxo magnifiers...

**Wave Plus**
Industrial magnifier with 3D feature
Wave Plus was the industry’s first illuminated magnifier with a rectangular lens and two light sources. By illuminating from one side only, depth perception is increased and positioning of the objects made easier. Colours: White or light grey. Standard version with 3.5 diopter glass lens.

**Wave ESD**
ESD-safe industrial magnifier with 3D feature
Wave ESD is an ESD-safe illuminated magnifier for industrial applications. Many industries such as the electronics industry are particularly sensitive to electrostatic discharges (ESD) and need to establish measures to remove static by providing anti-static tools. Colour: Black. Standard version with 3.5 diopter glass lens.

**LFM-101**
Classic illuminated magnifier
While primarily intended for industrial uses, the LFM-101 adapts equally well for domestic use. The magnifying head is made of ABS polymer, combining a light weight design with high impact strength. Colour: White or grey. Standard version with 3 diopter glass lens.

**LFM Medical**
Illuminated magnifier for the healthcare sector
The low heat output of the lamp and the versatility and robust construction of LFM Medical makes it a great tool for patient examination at a very competitive cost. LFM Medical is approved as a medical device according to IEC 60601-1 and IEC 60601-1-2. Colour: White. Standard with 3 diopter glass lens.

**Circus**
Powerful magnifier with huge glass lens
Circus is well suited for demanding work in clinics and laboratories, and for industrial purposes. Circus has a large lens, aluminium head and a highly flexible self-balancing arm and shade neck. The large lens permits comfortable viewing with both eyes. Colour: White. Available with 3.5 or 5 diopter crown glass lens.

**LFM LED**
Lightweight illuminated magnifier
LFM LED is a lightweight magnifier with an allmetal construction, LED light sources, and a flexible spring-balanced arm in the Luxo tradition. The light weight makes it easy to move around. LFM LED is supplied with an ø127 mm 3 or 5 diopter glass lens, positioned in the middle of a circle of LED light sources. Colours: White.

**Magnifique II**
Illuminated magnifier for people with impaired vision
Magnifique II comes with a choice of four main lenses, 3, 4 and 6 diopter acrylic lenses as well as a 3.5 diopter glass lens for maximum scratch resistance. The power switch has been designed to give good tactile feedback, making it easy to find and operate. Colour: White.
Accessories

Our illuminated magnifiers are available for multiple applications, and are designed for table or trolley mounting. Some models may be wall-mounted. We offer a choice of accessories, including additional lenses for increased magnification.

Mounting options

Floor stand (trolley) with extra weight
White painted steel pole and star-shaped base. Kit includes both lockable trolley wheels and floor stand glides. The extra weight is recommended for all magnifiers.

BRK025505 Floor stand/trolley, white
SPA025674 Extra weight, white

CC surface mounted bracket
Surface mounting bracket. Available in white, black and light grey.

BRK025140 CC surface bracket, white
BRK025141 CC surface bracket, black
BRK025142 CC surface bracket, light grey

BSP wall bracket
The best support for wall mounted luminaires. A 130x130 mm square steel backplate with 4 fixing holes distributes weight evenly across the wall. Available in white.

BRK026221 BSP wall bracket, white

TE table bushing
For insertion into horizontal surfaces. Available in chrome.

BRK020068 TE table bushing

Secondary lenses

Suction lens 4 diopters
Increases magnification by 100%.
For use with Circus, Wave LED, Wave LED ESD, KFM LED, KFM LED ESD and LFM LED.

Suction lens 6 diopters
Increases magnification by 150%.
For use with Circus, Wave LED, Wave LED ESD, KFM LED, KFM LED ESD and LFM LED.

Suction lens 10 diopters
Increases magnification by 250%.
For use with Circus, Wave LED, Wave LED ESD, KFM LED, KFM LED ESD and LFM LED.

Suction lens 4 diopters
Increases magnification by 100%.
For use with LFM-101 and LFM Medical.

Suction lens 8 diopters
Increases magnification by 200%.
For use with LFM-101 and LFM Medical.

Swing-away lens 10 diopters
Increases magnification by 250%.
For use with Wave Plus and Wave ESD.

Replacement lenses for Magnifique II
Polycarbonate lenses available in 3, 4 or 6 diopter strengths
Glass lens 3,5 diopter
The replacement lenses are supplied with a practical lens holder.

SPD012502 Replacement lens 3 diopters, polycarbonate
SPD012506 Replacement lens 4 diopters, polycarbonate
SPD012510 Replacement lens 6 diopters, polycarbonate
SPD017906 Replacement lens 3,5 diopters, glass
Glamox Luxo Lighting

Glamox Luxo Lighting is a leading supplier of lighting solutions to the professional building market, offering complete product ranges for schools, healthcare facilities, commercial and industrial buildings, retail facilities, hotels, restaurants and more.

Our products and solutions are developed and tested by our engineers at our own research and testing facilities, and manufactured and certified in accordance with all relevant quality and environmental standards. They are based on the latest technology and expertise – and generations of experience.

All our products are covered by a five year warranty. More information is available from our website www.glamox.com/gsx