

**SIMPLY  
SEE *of work*  
BETTER**



**EYE  
STRAIN?**

**INSPECTION MISTAKES?**

**REJECT?**

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[www.lico.ro](http://www.lico.ro)

We have the right magnifiers  
to improve your vision and the  
right tools to make you work better.



**LICO**<sup>®</sup>  
[www.eurolupe.com](http://www.eurolupe.com)

*Simply See Better!*

*& work  
better*



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*Inspect simply BETTER, see things  
you might not have seen before.*

**Our Customers** using LICO Magnifiers achieve individually - the best possible inspection yield resulting in the highest possible reject of insufficient parts - or end up in a simply better and faster assembling work by improved eye sight vision.

Our point of view: „To see better means to work better“

This Definition\* reflects mostly in the business success of our customers. Better inspection results mean less inadequate or faulty parts are going to the next production step or even to their customers. (\*own definition) Such reduces cost and it helps to sort out insufficient parts qualitatively better and faster to come as close as to a requested 100% inspection yield. And 100% product quality of our customers results in higher customer satisfaction of their customers which very often assures the ongoing and often additionally new business.

## Fatigue-free Inspection

by our ingenious combination of Lens and Light, a best possible fatigue free use it is made available for users of LICO Magnifiers. Simply just a little reduction of light quality and or lens quality would immediately result in a reduced inspection success and it results also in considerably higher stress of eyes (and brains, because inspection is like watching permanently HD-movies, such can be very tiring for eyes and brains).

Due to that circumstances we offer to our understanding the best possible lens on the market and the best possible light on the market provide the best possible relief to the eyes of the user. From this we derive a higher user motivation which we assume certainly results in less hours of doctor's visits and less absence due to sickness leave.

## Durability

Many users of LICO magnifiers are inspecting, repairing or manufacturing products with LICO Magnifiers 8 hours a day and 40, 80 or 120 hours a week and also many LICO magnifiers are found at transport systems, conveyors, handling and other mechanical equipment and machines.

## Excellent Magnification

Choice of 3, 4 or 5 Diopters, and on BIG EYE2 with an additional 10 Diopter swing away lens

## True Long-Life Product

You receive a true long life product preserved in a sturdy re-useable packaging.

LICO BIG EYE Magnifier have no build in expiry date.

## Lowest Energy Consumption

at highest light production. Our Design leaves the power supply and the light source simply cool.

Due to the perfect design of all parameters there is extremely little energy loss by heat radiation.

The energy is used for producing light and not wasted for avoidable heat.

## The Overall Performance

regarding: to be able to see better, the overall performance sums up of inspection yield, quality of illumination, durability, user motivation and eye protection, also resulting in a very short return-of-investment and extraordinary high life expectancy of the LICO magnifier. Plus the user satisfaction with our optical instruments is very very high which in return comes back positively to the company.

## Sustainability

We build magnifiers since 1988. We build them in Europe and repair and upgrade even the oldest LICO BIG EYES. Typical upgrades are:

- Change from magnetic ballast to electronic ballast
- Implementation of a dimmer
- Modernize from fluorescent bulbs to LED bulbs

We stock all parts, even for the oldest LICO Magnifiers parts are available or being made to order, therefore we can bring even the oldest LICO magnifiers to state-of-the-art.

We do not use plastic parts or thin press-formed sheet metals parts in the structure of arm or joints. Therefore LICO Magnifiers are a prime investment into more than only a very long life expectancy.

## Quality and Size of our Lenses

Our BIG EYE and BIG EYE2 lenses are extra large and made from optical crown-white glass. The lens is grinded and polished. BIG EYE2 3 Diopter lenses are within the viewing angle fully distortion free and allow a very convenient perspective with both eyes at the same time. Only such lenses assure the possibility for a fatigue free all day use. And yes, to our knowledge our optical glass lenses are the biggest on the market.

## The Light, excellent illumination of the object

Absolute homogeneous and true daylight by proprietary LED technology, shadowfree, without remarkable heat radiation. The light intensity is fully dimmable. We assure true colors. There is no change of the color of the object, regardless if the built in LED light illumination is on or off.

## The Arm

is a massive, quite versatile and well balanced full-metal construction, therefore the use is easy and life expectancy has build-in no expiry date.

## ESD - Antistatic

Our full metal construction is conductive in itself by nature of the construction. Additionally the head itself is also grounded directly. There are no plastic arms or plastic joints which tend to receive and or store static charges. The blue paint additionally contains conductive metal oxides. The electrical connection by an appropriate ESD grounding box is highly recommended.

## The Product & Visual Performance

We welcome user feedback and suggestions for improvements to create an even better use for the individual user.

## Made in .....

We develop and manufacture since 1988 in Europe which assures fast action, close service and always the requested state-of-the-art.

## Why LICO Magnifiers? .....

We know, using LICO Magnifiers in many different technical areas our customers own an additional key for Quality improvement and extremely high yields of sorting-out-inspections at 100% controls. The staff of our customers simply can work better and inspect better which results in improved product quality and less internal and external returns which saves very much money day by day.

STATE-OF-THE-ART  
TRUE DAYLIGHT LED's!



### BIG EYE

- # 62500-4-EU-CE
- # 62500-5-EU-CE
- # **62500-4-EU-CE-LED**
- # 62500-5-EU-CE-LED
- # 62500-4-EU-CE-LED-UV
- # 62500-5-EU-CE-LED-UV



### BIG EYE 2

- # 72400-3-EU-CE
- # 72400-3-EU-CE-AR
- # **72400-3-EU-CE-LED**
- # 72400-3-EU-CE-LED-AR
- # 72400-3-EU-CE-LED-UV
- # **72400-3-EU-CE-LED-UV-BB**
- # 72400-3-EU-CE-LED-UV-AR

**NEW** # 72400-3-EU-CE-LED-Multicolor



#### Specification:

- 190mm Lens diameter
- Lens size approx. 300cm<sup>2</sup>
- 4 Diopters, Optical Glass
- Focal length approx 27cm (4Dio)
- Electronic HF power supply
- Dimmable illumination
- 34W Flickerfree and glare-free Illumination
- 2-pole illuminated Main switch
- Massive Arm construction
- Standard-Table clamp
- ESD-safe

#### Options:

- Color in Ivory
- 5 Diopter lens
- Protection cover
- Wall mount
- Table clamp
- Heavy Duty Table Clamp
- 17kg Base Plate

#### Spare parts:

- Bulb: 13362 Glarefree (1985-2011, „old, thick“ Version)
- Bulb: 13363 Glarefree (from 2012, „new, slim“ Version)



#### Specification:

- 300cm<sup>2</sup> optical glass lens A5-format
- Lens size approx. 195 x 155mm,
- 3 Diopters, Optical Glass
- Focal length approx 34cm
- Electronic HF power supply
- Dimmable illumination
- 34W flickerfree and glare-free Illumination or < 20W LED
- 2-pole illuminated Main switch
- Standard-Table clamp
- ESD-safe

#### Options:

- Color in Ivory
- Protection cover
- Finger protection
- Antireflective lens
- 10 Diopter auxiliary lens
- 4 Diopter lens (ask for availability)
- Wall mount
- Table clamp
- Heavy Duty Table Clamp
- 17kg Base Plate
- LED-Light, 5000K, white or UV

#### Spare parts:

- FS-Bulb: #13392 glarefree 5500K
- FS-Bulb: #13393 Ultraviolet
- Yellow-light on request



All our magnifiers are  certified and marked



# The BIG EYE 2 in Blue

LICO®

Part number 72400-3-EU-CE

Our standard for industrial inspection

Extreme eye-protecting even when used all day long !

Very convenient viewing area

Perfect for all day use!

Allows enormous working depth

Focus: ~ 34cm

## BIG EYE 2:

### XL 200 x 150mm lens

3 Diopter

Reach of arm: 1m

Complete with electronic Dimmer, 2-pole power switch and table clamp

ESD-safe



### Specification:

- Extra large optical glass lens approx 195 x 155 mm = ~ 300cm<sup>2</sup> / A5-format
- real DISTORTION FREE
- ground
- polished
- Crown-white
- Light quality = Daylight, nom. 5000K
- Illuminance ~5000LUX
- Color Rendering Index (CRI) 80-85
- Dimmer included:
- Adjust light step-free
- sturdy long life metal construction
- proven many thousand times for many decades.

### Options:

- The ultimate perfect LICO LED illumination
- UV Lightsource, Fluorescent or UV LED,
- Anti reflective coated lens, removes about 2/3 of reflecting light
- 10x Auxiliary lens

### References:

Commerce & Industry  
Automotive  
Electronics  
Hybrids  
Components  
PCBs  
Air- & Space industry  
Police & Military  
Safety industry  
Fine mechanics  
Bearings & Gears  
Engine parts  
Marine  
and many more.

## BIG EYE II

The ideal magnifier for production and QS



Part number 72400-3-EU-CE

## BIG EYE 2:

### XL 200 x 150mm lens

3 Diopter

Reach of arm: 1m

Complete with electronic Dimmer,  
2-pole power switch  
and table clamp

ESD-safe



## Our standard for industrial inspection

### Specification:

- Extra large optical glass lens  
approx 195 x 155mm = ~ 300cm<sup>2</sup> / A5-format
- real DISTORTION FREE
- ground
- polished
- Crown-white
- Light quality = Daylight, nom. 5000K
- Illuminance ~5000 LUX
- Color Rendering Index (CRI) 80-85
- Dimmer included
- Adjust light step-free
- Sturdy long life metal construction
- Proven many thousand times  
for many decades.

### Options:

- The ultimate perfect LICO-LED-illumination
- Anti reflective coated lens,  
removes about 2/3 of reflecting light  
ask for availability!
- 10x Auxiliary lens





# The BIG EYE 2 with LED

LICO®

Part number 72400-3-EU-CE-LED

## The LICO-LED-light:

- Extra many daylight white or UV-Special-LEDs
- Selected and better than Premium-quality-LEDs
- Daylight white illumination
- Spot-free due to a very big light emitting area
- Operation in low energy mode results in:  
Very homogenous and evenly illumination
- Free of cast shadows
- Free of blue shadows
- Almost reflexion free illumination

## How to order:

**72400-3-EU-CE-LED (Standard)**  
**72400-3-EU-CE-LED-AR**  
**72400-3-EU-CE-LED-UV**  
**72400-3-EU-CE-LED-UV-BB**  
**72400-3-EU-CE-LED-UV-AR**  
**72400-3-EU-CE-LED-Multicolor**

-AR stands for antireflective lens  
-UV stands for UV-light  
-UV-BB stands for Broadband UV-Light  
-**Multicolor** with 12+1 different LED colour



**Retrofit-offer:**  
We retrofit any BIG EYE into a  
State-of-the-Art BIG EYE-LED.  
Ask for a quote!

## Specification:

- Extra large optical glass lens  
approx 195 x 155 mm = ~ 300cm<sup>2</sup> / A5-format  
real DISTORTION FREE view
- ground
- polished
- Crown-white
- Light quality = Daylight, 5000K
- Illuminance ~5000LUX
- Color Rendering Index (CRI) 80-85
- Dimmer included
- sturdy long life metal construction  
proven many thousand times, for many decades.
- LED-Light:
- After many years of R&D the LICO LED-BIG EYE2 now  
offers the perfect solution in illumination.  
Especially convenient for all day use, wearer of glasses  
and mostly suitable with visual impairment.

## BIG EYE 2: XL 200 x 150mm lens

3 Diopter  
Reach of arm: 1m

Complete with electronic Dimmer  
2-pole power switch  
and table clamp

ESD-safe



## Options, ask for availability:

- AR, antireflective coated lens
- 4 Dio, 4 Diopter lens
- 10x Auxiliary lens

Part number 62500-4-EU-CE  
62500-5-EU-CE

## BIG EYE: 190mm XL-lens

4 or 5 Diopter lens

Reach of arm: 1m

Complete with electronic Dimmer,  
2-pole power switch  
and table clamp

ESD-safe



### Specification:

- 34W high power illumination
- X-Large optical glass lens,  
190 mm Diameter, ~ 300cm<sup>2</sup>  
ground  
polished  
Crown-white
- Light quality = Daylight, 5500K
- Illuminance ~5000LUX
- Color Rendering Index (CRI) 80-85
- Dimmer included
- Adjust light step-free
- Sturdy long life metal construction
- Proven many thousand times  
for many decades.
- ESD-safe
- Option with UV-LED Light



# The BIG EYE Round in Blue

Part number 62500-4-EU-CE  
62500-5-EU-CE

## BIG EYE: 190mm XL-lens

4 or 5 Diopter lens

Reach of arm: 1m

34W circular and shadow free illumination  
in daylight quality  
or LED-daylight or UV-bulb

Complete with electronic Dimmer,  
2-pole power switch  
and table clamp

ESD-safe

**BIG EYE Series is going LED:**  
**BIG EYE LED: 62500-4-EU-CE-LED**  
**BIG EYE UV LED: 62500-4-EU-CE-LED-UV**



### Specification:

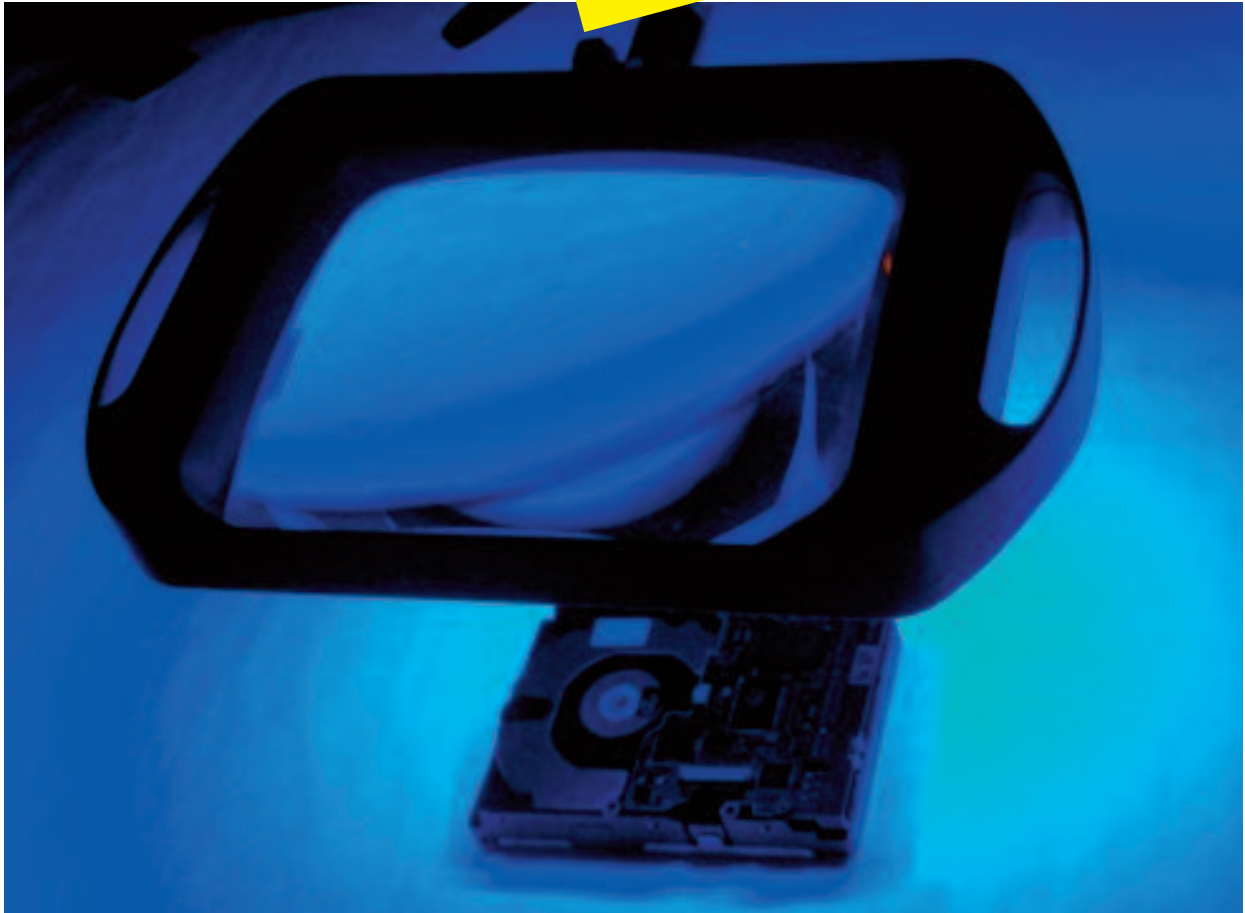
- 34W high power illumination
- X-Large optical glass lens,  
190mm Diameter, ~ 300cm<sup>2</sup>
- ground
- polished
- Crown-white
- Light quality = Daylight, 5500K
- Illuminance ~5000LUX
- Color Rendering Index (CRI) 80-85
- Dimmer included
- Adjust light stepless
- Sturdy long life metal construction
- Proven many thousand times  
for many decades.
- ESD-safe
- Option with UV-LED Light



Part number 72400-3-EU-CE-UV

The **BIG EYE2** with high density UV bulb  
 UV spare bulb: part number: 13393

**BIG EYE series available with UV-LED!**  
 BIG EYE 2 p/n: 72400-3-EU-CE-LED-UV-BB  
 BIG EYE p/n: 62500-4-EU-CE-LED-UV



Wave-length of the lights:

UV bulb version: approx. 350 – 410nm  
 UV LED: approx. 400 – 410nm  
 UV LED Broadband: 365 – 405nm



Attention! High Intensity Ultraviolet Light - to avoid eye and skin damage it is highly recommended to wear proper Eye & Skin Protection. Please consult with your local work safety inspector. (LICO assumes no responsibility for any effects that occur due to improper use or miss of appropriate protection protocols.)

# The BIG EYE 2 with Multicolor light **LICO**<sup>®</sup>

Part number 72400-3-EU-CE-LED-Multicolor

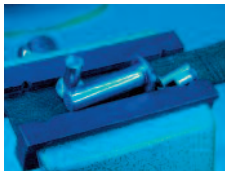
The **BIG EYE2 Multicolor** has RGB LED Light design.  
With 12+1 Color options.



12+1 color settings namely:



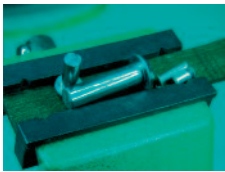
Yellow



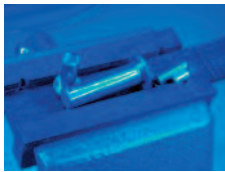
Light Blue



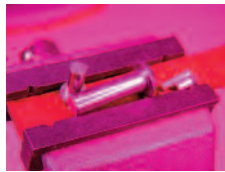
Pink



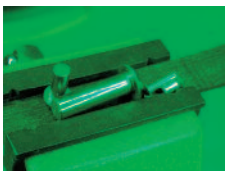
Cyan



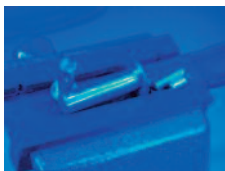
Blue



Magenta



Light Green



Deep Blue



Orange



Green



Purple



Red

## Good to know:

The lamp has multiple color setting options. Different colors can be used to focus on different aspects of an item.

Examples:  
Under yellow light the material defects, scratches are more visible.

Under blue light you can see the holes and the edges much more precise.

The light intensity is also adjustable between 10 – 90 %.

Includes also an option for normal use with a standard white colour:





for the BIG EYE and the BIG EYE2

Simple to use  
 Easy to use  
 Improved flexibility  
 Attractive design  
 Improved construction  
 Full metal mechanics



## Optical glass lens: Diopters & Magnification:



**Data of our optical lenses:**

3 Diopter lens:	Magnification approx. 1,75x, Focus approx. 34cm
4 Diopter lens:	Magnification approx. 2,00x, Focus approx. 27cm
5 Diopter lens:	Magnification approx. 2,25x, Focus approx. 17cm

## Grounding & ESD:



Our magnifiers are grounded full metal constructions and shall be connected to an appropriate ESD- or grounding box to comply with the given company internal ESD-workplace regulations. Details can be found in the Owner's manual.

## Operation, Maintenance & Care:



Our magnifier are built for very long life. Advise for operation, maintenance and care is found in the Owner's manual or at LICO. Corresponding care will assure a trouble free operation for many years.

## Painting in Custom COLOURS:

Please send your inquiry!



### 11461 Table Edge Clamp,

This clamp is supplied as a standard fixture with all our magnifiers.

Color: blue, ivory or black



### 11463 Screw Down Fixture, Heavy Duty

Color: blue, ivory or black



### 11464 Table Clamp, Heavy Duty ( as long as stock lasts)

Double, with two fixtures

Color: blue, ivory or black



### 11462 Wall Mount

Color: blue, ivory or black

**Attention:** The ivory picture is only an illustration. The wall mount **mandatory** has to be **mounted** and used as shown on the blue picture: **flat side up !!** Otherwise break, injury and damage may occur!

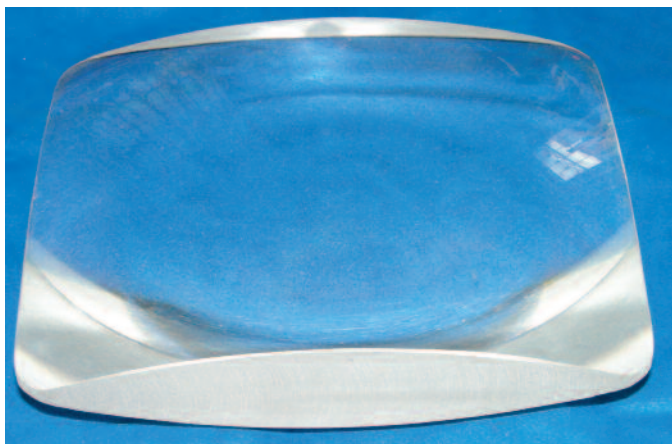


### 11458 Heavy Base Plate

Weight 17,5kg

Use instead of other fixtures  
Color: ivory or black

**Attention:** Despite of the high weight it is possible to capsize the lamp



**Spare lenses:**

- 13157 4 Dio lens BIG EYE , round
- 13160 3 Dio lens BIG EYE 2
- 13160-AR 3 Dio lens-AR, BIG EYE 2, (check availability)

**Auxiliary lens:**

- 13168 10 Diopter-additional lens, Magnification: 3,5x
- 13169 6 Diopter-additional lens, Magnification: 2,5x



**Spare springs for 72400 :**

- 10241 Upper arm spring 3Dio-lens
- 10249 Upper arm spring 4Dio-lens
- 10245 Spring between socket and knee  
3Dio + 4 Dio-lens



**Optional:**

gold plated springs (check availability)

**11501 Dust cover - Sun protection**

Linnen bag with elastic band,

Color: blue

NEW 2014: Micro-fibre dust cover

p/n **11501-MF** (blue only)

**11502-MF** : Special Cleaning cloth for lenses,

especially suitable for AR-lenses



**Service is our success:**

We are a certified Master Operation and we supply long-life products. Our magnifiers are not throw-away products, by all means a life of 10, 20 years or even longer is no curiosity. Therefore we proudly service all our magnifiers on our own in Europe.







## 13367 Finger protection for 72400 BIG EYE 2 fluorescent bulbs

transparent cover with mounting clips.  
Simply clip the cover on to the installed bulb.

Ideal for mechanical works under the lens to protect the bulb or when using the magnifier as a reading lamp.

## Spare bulb for the BIG EYE 2

p/n 13392,  
34W Special bulb, glare free, daylight

p/n 13393,  
34W special bulb, Ultraviolet



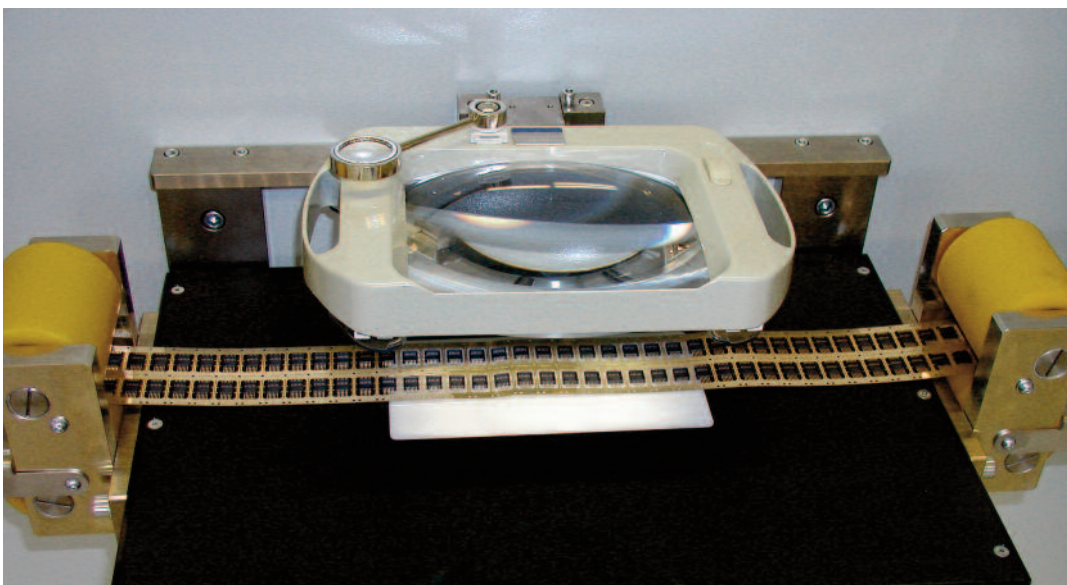
## Spare bulb for the BIG EYE



p/n 13362,  
34W Special bulb, glare free, daylight  
(1985-2010, "old, thick" Version)

p/n 13363,  
34W Special bulb, glare free, daylight  
(2010- "new, thin" Version)

## Application example: Illuminated Machine Magnifier



Example: use as a Split-unit:

The power supply is mounted inside the machine control box, the lens-head is mounted appropriate on to the machine.

# GREENLITES

O.C.White LED round and rectangular magnifier lamps



This Industrial Standard with Innovative Design and energy-saving and newest LED-technology.

*Ideal for Labor  
and R&D*





178 x 133mm  
LED-Magnifier

82400-4-EU-CE  
in Perlblue-Metallic



178 x 133mm  
LED-Magnifier

82400-4-EU-CE  
in shadow-white



150mm  
LED-Magnifier

42400-4-EU-CE  
in Crystal-Perl Red



190mm  
LED-Magnifier

62400-4-EU-CE  
in Anthrazit-Metallic

Max. Power consumption: energy saving 8W only at max. 7500 LUX Illuminance  
Big round Magnifiers are also available with 5 Diopter lenses. Electronic Dimmer and Section Control is Standard.  
Supply incl. Table Clamp  
Options: Different Colours, Screw Down fixture, Wall Mount, Dust Cover.

## Extra-Large Designer-Magnifier, 150mm, 190mm Lens

Ultralow Power Consumption: max. 8W  
only

Newest LED Technique

Very bright, dimmable Light

Switchable sections

4 or 5 Diopter lens

Dimmer

Timer



Since 2010 with  
5D-Effect

## 5D-Effect

*The individual light  
segments can be preselected  
switched on or off, resulting  
in a 5-dimensional lighting option  
from all around, left, right, front  
and back*

Proven, solid Construction

Robust and long-life  
Metal Arm, Joints  
and Head

Reach: ~ 1m

## How It Works?



### Note:

Units are equipped with automatic timer function.  
And turns the unit Off after 4:05 hrs.

To enable and disable the timer.

Press and hold both buttons for 2 seconds.

-If the unit blinks once the timer is ON.

- If the unit blinks twice the timer is OFF.



### Switch On/Off and Dimmer

Press and hold power button down to  
adjust brightness from high to low and back  
continuously. Release button when desired  
brightness is achieved.

Press Power button to turn on/off the light  
manually.



### Light Switchable Section

Press Sequence button to switch through  
lighting options.

**All on, Left+Right, Left, Right, Top**

www.ocwhite.eu

## Extra-Large Magnifier with White & UV-light, with 4 Diopter 178x133mm Lens

Ultralow Power 8W Consumption:  
30VDC external Power supply

Newest LED Technology  
Both visible light & UV-light  
or White Light only.

Very bright dimmable Light

Switchable Functions:  
White or UV or  
both together

Dimmer

Timer

UV Wave-length approx. 365nm

82400-4-EU-CE  
82400-4-UV-EU-CE



### Viewing Sample:



Proven, solid  
Construction

Robust and long-life  
Metal Arm, Joints  
and Head

Reach: ~ 1m



Attention! High Intensity Ultraviolet Light - to avoid eye and skin damage it is highly recommended to wear proper Eye & Skin Protection. Please consult with your local work safety inspector. (LICO assumes no responsibility for any effects that occur due to improper use or miss of appropriate protection protocols.)



## ML3000

### Micro-Lite® Fiber Optic LED Light Source

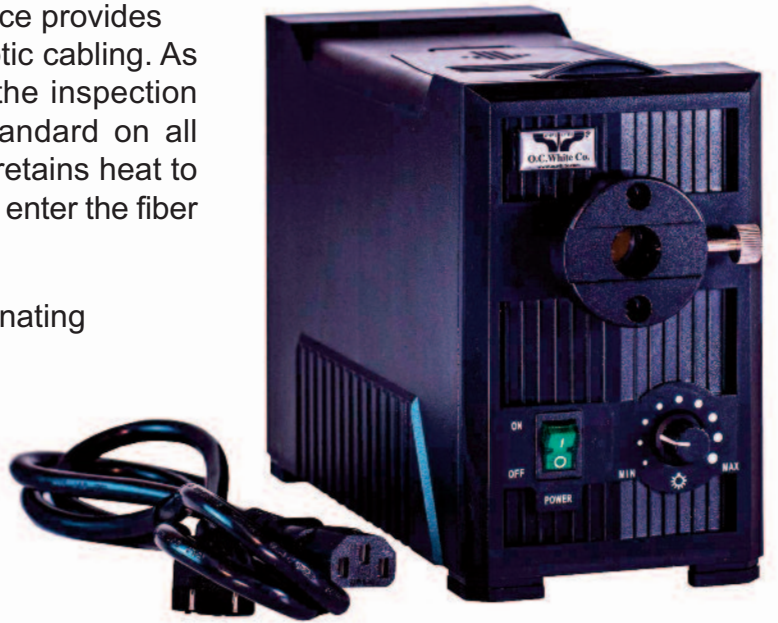
The Micro-Lite® Fiber Optic LED Light Source provides intense LED light focussed through fiber optic cabling. As a result, this allows to target the light on the inspection tasks. Additionally, an IR Filter comes standard on all Micro-Lite® Fiber Optic products. The filter retains heat to the power box and allows cool, bright light to enter the fiber optic cabling.

Several attachments are available for illuminating microscopes, including annular rings, dual gooseneck, and backlit stage.



**Attention:**

This light source is for industrial use only, The light can be extremely bright. Never look directly into the light, permanent eye damage may occur.



### ML3000-A

Micro-Lite® Fiber Optic LED Light Source with Annular Light



**Bore Nosepiece to accept other fiber optic attachments.**

**This product is ESD Safe and RoHS Compliant.**

### ML3000-D

Micro-Lite® Fiber Optic LED Light Source with Dual “gooseneck” Light and Spot Lenses



**This product is ESD Safe and RoHS Compliant.**

**AS3739 glassfibre ring light**



**EG2823 double goose neck**



## Ring-Lights Micro-Lite® Illuminators



**Micro-Lite® High/Low Ring Illuminator (FL1000)**

Micro-Lite® High/Low Fluorescent Ring Illuminator is the highest quality fluorescent ring on the market. The exclusive 'flicker-free' design makes for fatigue free usage.

Our specialized ballast technology eliminates flickering that can cause eye fatigue, and allows for more lumen output per watt.

**ESD SAFE**

**Micro-Lite® Ultraviolet (365nm) LED Ring Illuminator**

Micro-Lite® High Intensity Black Ultraviolet LED Ring Illuminator with 9 Extreme Output LEDs. At home in many industries, our UV2000-B features 365nm Ultraviolet Light.



**Micro-Lite® High Intensity 3500K LED Ring Illuminator**

Micro-Lite® High Intensity LED Ring Illuminator with 3500K color temperature. This LED Illuminator is the brightest on the market, and rivals 150W Halogen illuminators in it's specific yellow hue. An excellent choice for medical device manufacturers. Total Energy consumption of this unit is a scant 8W! Features a 100-240V (50/60Hz) Auto Switchable Transformer design. Available in black or white molded shades.

**ESD SAFE**





The perfect table top Microscope

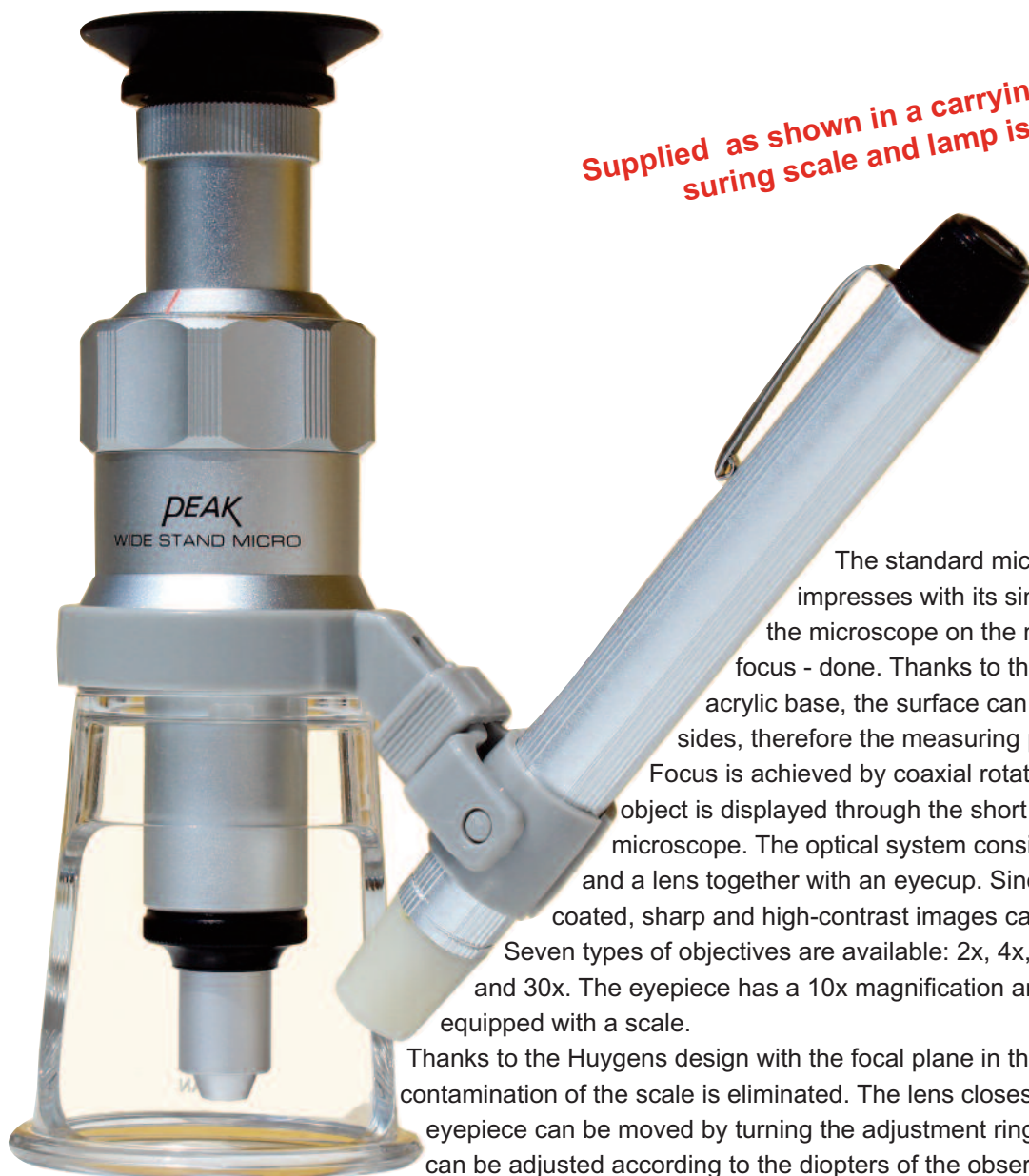
☀ portable, precise, easy to use

- ▶ Magnification from 20x to 300x
- ▶ Modular - extendable



Part number	2034-20	2034-40	2034-60	2034-100	2034-150	3024-200	2034-300
Magnification	20x	40x	60x	100x	150x	200x	300x
Working distance	36,0mm	18,7mm	10,8mm	5,7mm	9,2mm	6,7mm	4 mm
Adj. Focus	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Scale in focus	Yes	Yes	Yes	Yes	Yes	Yes	Yes
View area	7,2mm	3,6mm	2,4mm	1,45mm	0,96mm	0,72mm	0,48mm
Measuring length	6mm	3mm	2,0mm	1,2mm	0,9mm	0,6mm	0,4mm
Scale resolution	0,1mm	0,05mm	0,02mm	0,01mm	0,005mm	0,002mm	0,001mm
Numeric Aperture	0,06	0,12	0,15	0,19	0,24	0,35	0,4
Focus	35,0mm	22,0mm	16,5mm	10,7mm	7,3mm	5,7mm	3,9mm
Eyepiece	10x	10x	10x	10x	10x	10x	10x
Aux. lens	2x	4x	6x	10x	15x	20x	30x

Weight	241 Grams
Carryingbox	included
Dimension	63 x 172mm
Standard scale	included
View	mirrored



Supplied as shown in a carrying box, the measuring scale and lamp is included

The standard microscope series 2034 impresses with its simple handling. Place the microscope on the measuring field, focus - done. Thanks to the clear-transparent acrylic base, the surface can be seen from all sides, therefore the measuring point is easy to find. Focus is achieved by coaxial rotation of the tube. The object is displayed through the short beam path in the microscope. The optical system consists of an eyepiece and a lens together with an eyecup. Since all lenses are coated, sharp and high-contrast images can be obtained. Seven types of objectives are available: 2x, 4x, 6x, 10x, 15x, 20x and 30x. The eyepiece has a 10x magnification and the focal plane is equipped with a scale. Thanks to the Huygens design with the focal plane in the lens system, dust contamination of the scale is eliminated. The lens closest to the eye in the eyepiece can be moved by turning the adjustment ring, so that the scale can be adjusted according to the diopters of the observer. The eyepieces corresponding to the respective magnification (objective) eyepieces with integrated measuring scales can be easily exchanged by pulling them out. Additional objectives to be used for visual control only, then you do not need additional eyepieces. Purchase of interchangeable objectives: If, for example, you should use a microscope with 100x magnification with the 0.01mm scale, the measurement result will be incorrect after inserting another objective. Therefore, the additional objective (with you want to measure) should be ordered with the corresponding eyepiece. The side illumination enables measurements on dark surfaces or in dark environment. Two pieces 1.5V Mignon batteries are required for operation. The microscope is supplied in a padded transport box.

It provides safe transport space for a further four objectives, which are available as accessories.

The parts and accessories are available at [www.eurolupe.com](http://www.eurolupe.com).



**BONKOTE**<sup>®</sup> 日本ボンコート株式会社

[www.bonkote.eu](http://www.bonkote.eu)

**LICO**<sup>®</sup>

*Simply  
better!*





*The Original high  
quality products  
directly from  
Japan!*





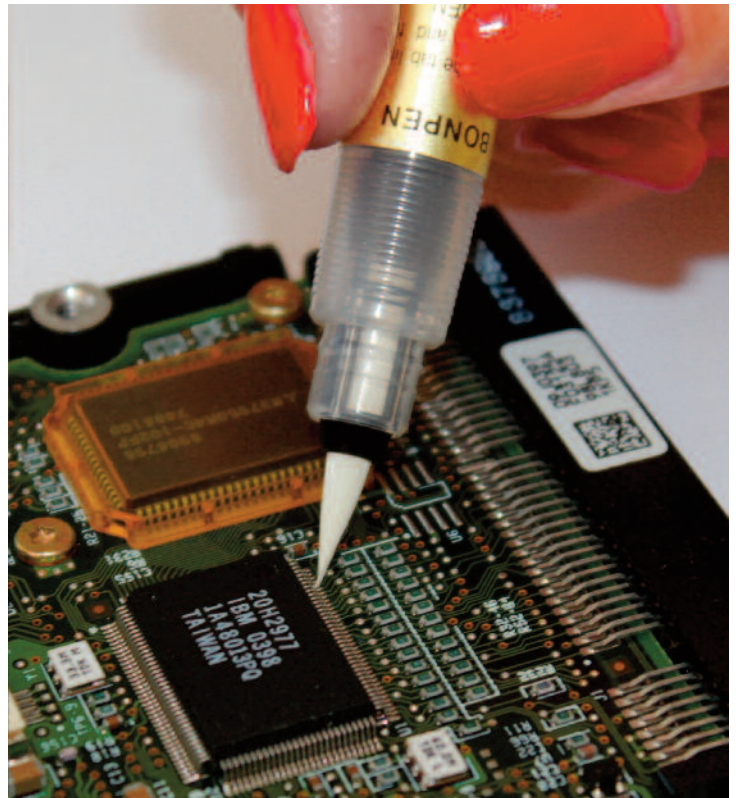
**BONPEN,**

These handy Bon Pens allow for very accurate flux dispensing on the work area, while eliminating dripping and flooding, making it irreplaceable for every SMD-workplace

**BONPEN-Materials:** PP, PE, Nylon.

BONPEN is **Suitable for:** Fluxes, Alcohol, Fluoric Lube, Primers, Flux inhibitors, Water

**BON-102A,** 7 pcs set consisting of 1pc of all BON-102 PENS (including BON102S)



Be aware of the counterfeit versions.

LICO is the only authorised BONKOTE Partner in Europe for the Original BONKOTE Flux Pens.

Attention:

The counterfeit versions are NOT ESD SAFE.



www.bonkote.eu



BR102, Spare Tips, cone shape short,  
L=14mm, W=4,3mm, fine nylon-brush



BR102S, Spare Tips, cone shape short, ultrafine,  
L=10mm, W=2,5mm, very fine nylon-brush



BR102T, Spare Tips, cone shape long,  
L=18 mm, W=5,2mm, fine nylon-brush



BR102D, Spare Tips, flat-chisel shape,  
L=17 mm, W=6,2 mm, fine nylon-brush



BR102B, Spare Tips, cone shape short,  
L=9,5 mm, W=4,5 mm, fine felt



BR102F, Spare Tips, flat-chisel shape,  
L=10 mm, W=4,5 mm, fine felt



BR102K, Spare Tips, angled flat-chisel shape,  
L=12,5 mm, W=4,5 mm, fine felt



CA102  
Replacement Cartridge2, 7ccm

**BON102 = BR102 + CA102**

Over all Length: BON102 approx. 170mm  
the Printed Version scale is a bit smaller than 1:1

The Packaging:



BONPEN & BR-Spare Tips: Packages of 5 pcs.



BR-Spare Tips: Packages of 5 pcs.

**BON-102A** - Set consists 1 of each:  
 BON-102, BON-102S, BON-102T, BON-102D, BON-102B,  
 BON-102F, BON-102K



www.bonkote.eu

## The Bonkote Fine Cleaner

**Are you using wet sponges or metal sponges to clean your soldering tips?**

It is proven that such temperature shocks slowly but surely crack the coating surface of soldering tips. The temperature drop can be even 50 - 100°C And such circumstance can lead into instable soldering temperature. And finally such temperature shocks reduces the life expectancy of soldering tips remarkably.

Metal sponges scratch the fine surface of soldering tips which also reduces the life expectancy.

Bonkote round stainless steel bars and the smooth high temperature rubber **can save considerably** on your soldering tip life by avoiding scratches and high temperature drops.



The Fine-Cleaner consists of a High temperature rubber part and a Magnet



This Magnet can be fixed at the bottom of the Cleaner



Strong residues can be pre-cleaned or cleaned at the rounded stainlessbars.



Simple residues can be cleaned off the tip at the rubber lip

### Types:

Model	Inner Diameter	Outer Diameter	Weight
B-250	25mm	50x22mm	65g
B-500	50mm	87x30mm	185g

Materialies: Magnetic plate, High temperature-rubber, rounded stainless steel bars



## The Desoldering Braid® 3S-Wick® The Original

3S-Wick® patented vacuumization technology is preferred by leading organizations worldwide. Vacuumization yields a high-speed response wick for quickest and safest desoldering. A simultaneous comparison dip-test (MIL-STD-202 E Method 208 C) with competitive wicks will show the differences.

3S-Wick® flux is based on mildest non-corrosive, non-hygroscopic, non-conductive rosins of 'no-clean' quality.

3S-Wick® conforms to the most stringent soldering standards set worldwide i.e. DIN-8516, DIN-8527, DIN-8511-F-SW32 (German), BS-441, DTD-599A (British), JIS-C-2519, JIS-C-2512 (Japanese), ASTM-B284, NASA Publications MIL-F-14256D type W and A, NPC-200-4 Quality Publication, NASA-SP5002 Soldering Electrical Connections, NASA-NHB-5300 Reliability and Quality Assurance Publications, and others.

3S-Wick® is used and has been used for the most demanding desoldering operations in spacecraft and military electronics. 'No-clean' residues can be left safely on the desoldered area.

### IMPORTANT:

The minimal residues left on the soldered area do also act as a solderability conservation for that area, should the resoldering not be done immediately there.

The technical term 'no-clean' Wick found in desolder braid descriptions and specs usually refers to a wick whose desoldering operation only leaves a minor amount of flux on the desoldered area and which do use a flux composition whose residues can be left safely on the desoldered area.

A fluxless wick as often proposed does not exist and can not function by metallurgical reasons.

LOTSAUGLITZE® is a German word created about 36 years ago by Spirig and is registered as a trademark for Spirig. The commercial wicking technology to remove solder was established in Europe by Spirig.

Entlötlitze is also a recently created German word expression for desoldering braid and the use of Entlötlitze is free for the public use to describe this desoldering technology/products.

### Why is it advantageous to remove solder using 3S-Wick®?



Wicking avoids damaging and life reducing heat shocks to components, printed circuit boards copper tracks (peel off danger if overheated) and surrounding components. Wicking also protects these parts against excessive temperatures of idling mechanical solder suckers.

3S-Wick® is made from high heat conductive copper and presents sufficient thermal mass per length to dampen heat shocks. Compare this to competing low thermal mass wicks!

The cold 3S-Wick® end is pressed with the hot soldering iron tip on solder to be absorbed. The cold wick and cold solder increase now gradually in temperature. There is no sudden temperature increase with large temperature gradients causing extreme thermal stress to the solder area. As wick and solder reach the melting temperature range of the solder, the solder liquifies and is almost instantaneously drawn by capillary forces into the wick, like ink into a blotter. Wick and tip should now be lifted simultaneously. The wick end with the absorbed solder is now cut off preparing a fresh wick end for the next de-solder operation.

3S-Wick® is made from high heat conductive copper with sufficient thermal mass and protects therefore against those "deadly" hot idling iron tip temperatures. The thermal mass of 3S-Wick® naturally cools the solder tip.

A too small solder tip compared to the 3S-Wick® size causes the tip temperature to considerably drop. The resulting temperature of the wick end, solder and tip might even fall under the melting point of the solder. Such a situation will not give a satisfactory desoldering operation.

If the temperature drops below the melting temperature then the temperature will rise only slowly by the heating power of the iron. The desoldering operates slowly, looks like freezing.

The size of tip therefore should be large enough to be able to store sufficient heat energy in its mass to bring upon contact the temperature of the wick and solder safely above the melting point of the solder. Correct wicking uses the stored heat in the tip for a speedy desoldering operation.

De-soldering by wicking means actually soldering the wick with the unwanted (to be removed) solder. The solderability of the wick is therefore a direct quality indicator for the wick itself.

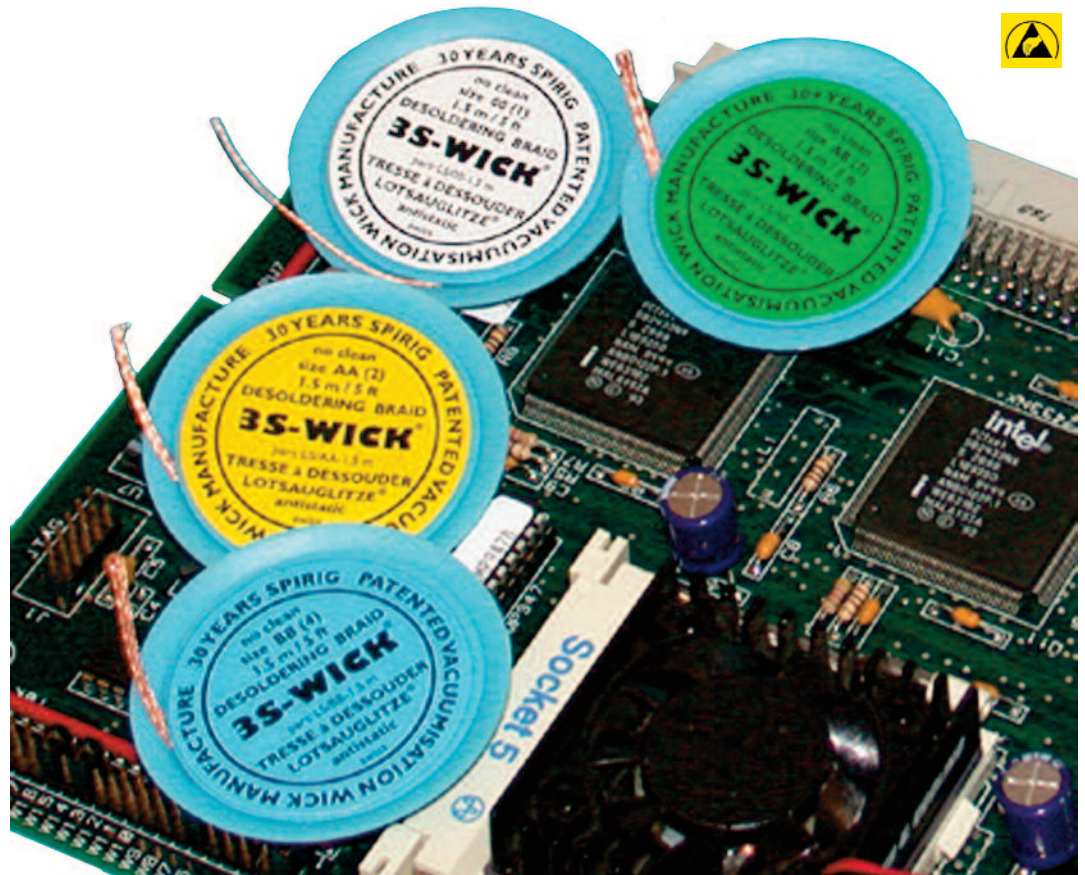
Spirig's patented vacuumisation production process dries the wet flux coated braid structure under vacuum and without heating. Therefore eliminating rise of chemical activity and interactions of the coating with the copper surface. The solvents in the vacuum pump exhaust are recycled.

Ozone depleting substances do not escape into nature.

Minimal loss of expensive solvents is one of the reason for economic wick production costs.

Spirig's patented powder flux deposit production process does not use solvents at all. Costly solvents and recycling is avoided completely. This is the ultimate economic approach to braid processing. Ozone depleting substances do not exist at all in this patented flux coating process.





Type	Colorcode	Width ca.	Length on spool	Part number.	Application	Recommended Heat Power
0	white	0,80mm	1,5m	LS/00-1.5m	very fine joints	from 20 Watt
			25m	LS/00-25m		
AA	yellow	1,50mm	1,5m	LS/AA-1.5m	fine joints	from 30 Watt
			25m	LS/AA-25m		
AB	green	2,20mm	1,5m	LS/AB-1.5m	medium joints	from 50 Watt
			20m	LS/AB-20m		
BB	blue	2,70mm	1,5m	LS/BB-1.5m	large joints	from 80 Watt
			15m	LS/BB-15m		

The blue spools are in Antistatic material

For best results, use a screw driver type soldering tip, the width of the tip shall fit to the width of the Desolder braid.

No-clean Flux compromises DIN EN 29 454 1.1.3

1,5m-Solder wicks are packed in boxes of 10 pieces.



The pumps:



**Dish-pump  
One-Touch**



**Dish-pump, lockable,  
One Touch Take along**



**„Mushroom“-pump  
Pure Touch**



**„Mushroom“-pump, lock  
Pure Touch Take along**

This pump automatically allows the flow back of the media into the bottle, which prevents unnecessary evaporation of the liquid.

This pump prevents the flow-back into the bottle to avoid any pollution of the original content.



**Bottle volumes**

2oz = 60ml, 4oz = 120ml, 6oz = 180ml, 8oz = 240ml

\*) some bottles are available only in 1 or 2 sizes

**Bottle Materials:**

**HDPE** white (High density Polyethylen)

**Metal**



**Conductive:** black

**Durastatic static dissipative:** yellow, blue, orange, green

**Glas:** clear amber, various frosted colors

**Ceramics:** ask for our Beauty Special-catalog

**Imprint:**

Acetone, IPA, Flux Remover, Isopropanol, DI Water  
(as far as available individually)

**Combinations and  
availability:**

ask for quote of specific quantity and availability,

**Special editions:**

e.g. goldplated pumps are custom-made



**Info:** The locking mechanism is ideal for transport of the Menda pump in service bags and for increased work place safety to avoid unwanted spilling.





**Mushroom-pump,  
Bottle HDPE white, 180ml  
Part number 35508**

**Dish-pump,  
Bottle HDPE white, 180ml  
Part number 3316 or 35509**

**Dish-pump, locking  
Bottle HDPE white, 180ml  
Part number 35703**

**Mushroom-pump, locking  
Bottle HDPE white, 180ml  
Part number 35805**



**Mushroom-pump,  
Bottle Durastatic yellow, 120ml  
Part number 35559**

**Dish-pump, locking  
Bottle Durastatic yellow, 120ml  
Part number 35360-L**

**Dish-pump,  
Bottle Durastatic yellow, 120ml  
Part number 35360**



**Dish-pump, locking  
Bottle Durastatic blue, 180ml  
Part number 35559**

**Dish-pump,  
Bottle Durastatic blue, 180ml  
Part number 35283**

**Mushroom-pump,  
Bottle Durastatic blue, 180ml  
Part number 35285**



**Dish-pump, locking  
Bottle Durastatic yellow, 180ml  
Part number 35276-L**

**Dish-pump,  
Bottle Durastatic yellow, 180ml  
Part number 35276**

**Mushroom-pump,  
Bottle Durastatic yellow, 180ml  
Part number 35276-P**



**Mushroom-pump,  
Bottle Metal, 120ml  
Part number 35335-P**

**Mushroom-pump, locking  
Bottle Metal, 120ml  
Part number 35255**

**Dish-pump, locking  
Bottle Metal, 120ml  
Part number 35256**

**Dish-pump,  
Bottle Metal, 120ml  
Part number 35335**



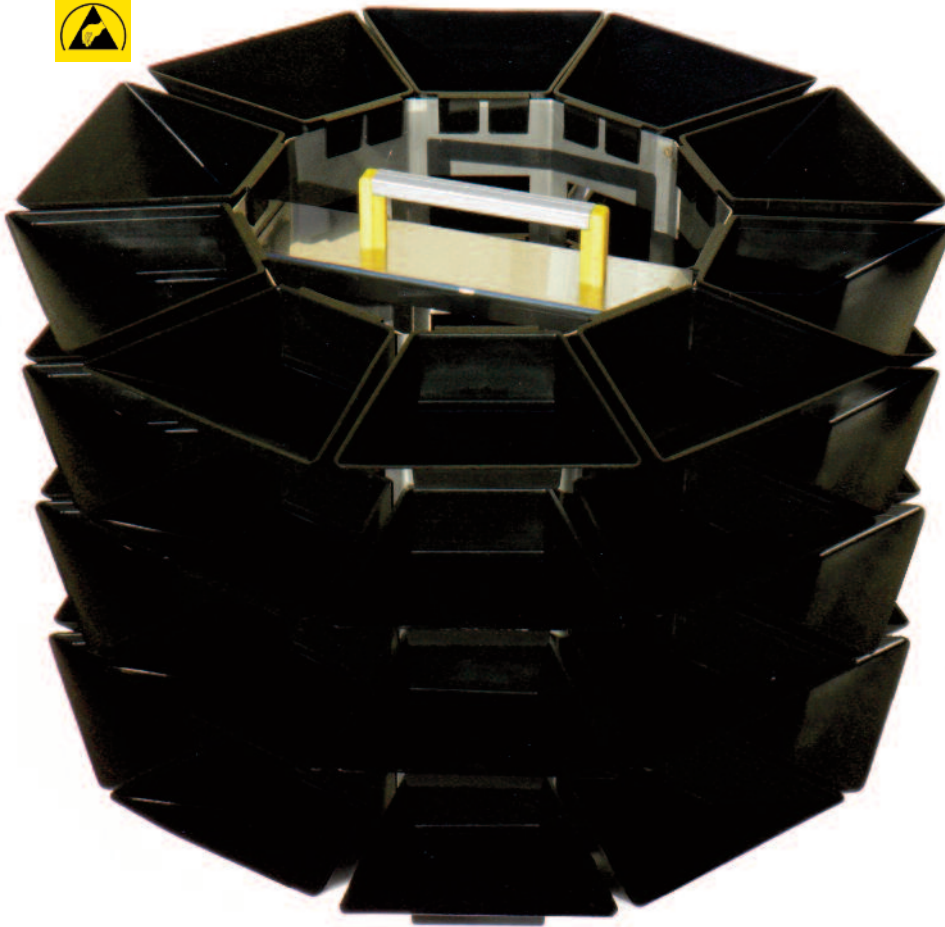
**Limited Edition**  
as long as stock lasts, e.g.

**Dish-pump gold plated,  
frosted blue glass, 180ml  
Part number 35339**

**Ask for your very individual  
Menda Dispenser Pump  
& Bottle !**

The Types:

## CARO 01 - ESD



A very versatile and easy to rotate helper for all day use.

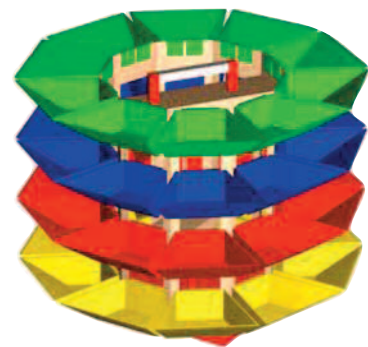
Solid mechanical construction ensures a very long life.

Comfortable handle to change from one to another workstation.

Solid base for a stable stand.

2 Version: colored tool-version or in ESD, static conductive for sensible Antistatic workplaces.

## CARO 02



### CARO 01 - ESD

**Description:**

- Metal frame Stainless Optics, ESD
- 4 Levels
- 40 bins, conductive Thermoplast color: black
- Handle for carrying
- base-stand
- zink plated grounding Connection
- Weight: 4,8kg

**Dimensions:**

Caroucell:  
Width (with bins): 460 mm, Height 400 mm

Bin dimensions:  
Height 40mm  
length 106mm  
width 70 – 130mm

### CARO 02

- Metal frame white painted
- 4 Levels
- 40 bins, Thermoplast in 4 colors green, blue, grey, red
- Handle for carrying
- base stand
- Weight: 4,8kg

Caroucell:  
Width (with bins): 460mm, Height 400mm

Bin dimensions:  
Height 40mm  
length 106mm  
width 70 – 130mm



## Stannol Solder Mask 100ml, 250ml Squeeze Bottle

**Article Number: Solder Mask 100 190573**

**Packaging: 250ml, Squeeze Bottle with Nozzle**

White Color

Drying time: 40 minutes at 80°C, 120 minutes at room temperature

### Description:

- Non-flammable
- 46% solids content
- Contains ammonia
- Contains natural rubber
- Contains zinc as vulcanization accelerator
- After peeling off from covered solderpads, these can be soldered with conventional fluxes



## Techspray Peelable Solder Mask 2211

**Article Number: Techspray 2211-8SQ**

**Packaging: 227g, Squeeze Bottle**

Freshly Applied Color: Pink

Cure Indicator: Darkens as it cures

### Description:

- Ammonia Free
- Synthetic Latex
- Non-flammable
- Easily Peelable
- Non-corrosive
- Low Odor
- Compatible with Gold and Copper Leads
- Approximately 30 minutes drying time





LED Illuminated Magnifier without Dimmer

Interchangeable lens system:

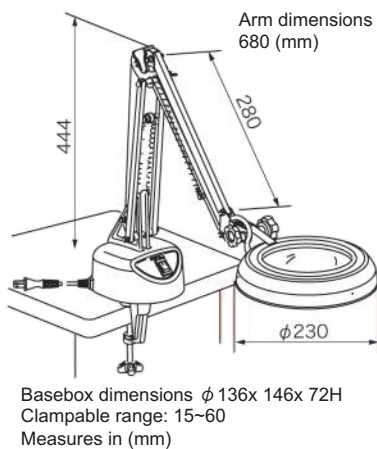
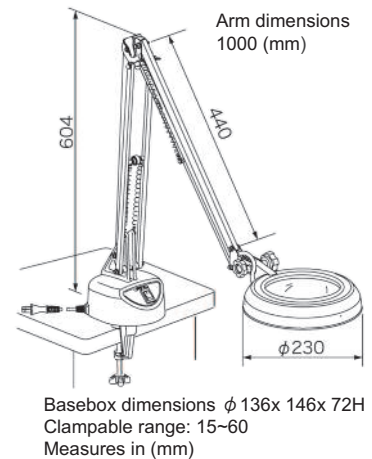
2x	3x	4x	6x	8x	10x	12x	15x
2xAR	3xAR	4xAR	6xAR	8xAR	10xAR		

Select the lens magnification and combine it with the main unit.

Example: **SKKL - F** **2x**  
Series name      Type name      Magnification

**SKKL-F**

- Free arm and clamp type
- Free-type and versatile for inspection, designing, crafting, etc.
- Weight: 2.7kg (Excluding lens)
- Input voltage range:  
AC100 - 240V  
50/60 Hz (125 - 240V is applicable by replacing the input plug. A kind of input plug consult your distributor).
- Power consumption: 10W



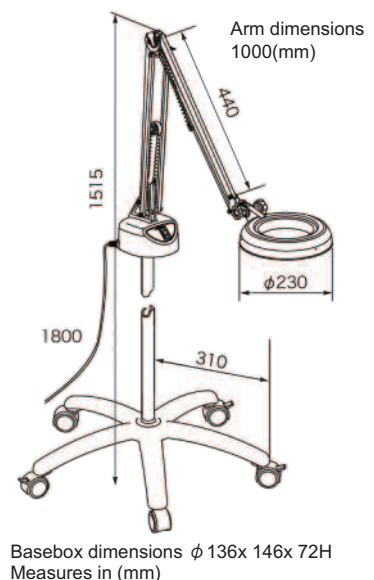
**SKKL-CF**

- Compact free arm and clamp type
- Free-type and versatile for inspection, designing, crafting, etc
- Weight: 2.5kg (Excluding lens)
- Input voltage range:  
AC100 - 240V  
50/60 Hz (125 - 240V is applicable by replacing the input plug. A kind of input plug consult your distributor).
- Power consumption: 10W



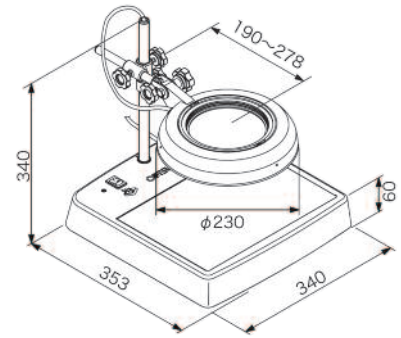
**SKKL-FL**

- Free arm with casters stand
- Moveable in the reach of the power cord
- Weight: 12.8kg (Excluding lens)
- Input voltage range:  
AC100 - 240V  
50/60 Hz (125 - 240V is applicable by replacing the input plug. A kind of input plug consult your distributor).
- Power consumption: 10W



**SKKL-CL**

- Light box with transmission illumination
- Weight: 3.2kg (Excluding lens)
- Input voltage range:  
AC100 - 240V  
50/60 Hz (125 - 240V is applicable by replacing the input plug. A kind of input plug consult your distributor.)
- Power consumption: 10W +5W



Measures in (mm)

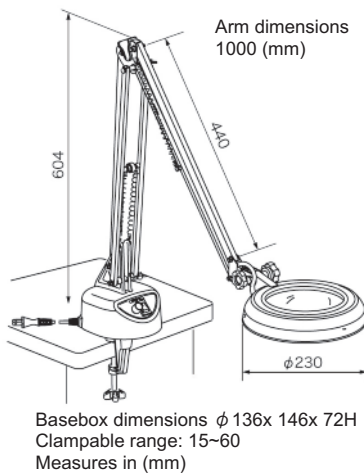
**ENVL - Series** LED Illuminated Magnifier with Dimmer

Interchangeable lens system:

2x	3x	4x	6x	8x	10x	12x	15x
2xAR	3xAR	4xAR	6xAR	8xAR	10xAR		

Select the lens magnification and combine it with the main unit.

Example: **ENVL - F** **2x**  
Series name      Type name      Magnification

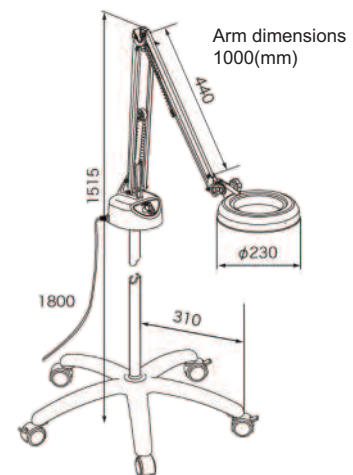


**ENVL-F**

- Free arm and clamp type
- Free-type and versatile for inspection, designing, crafting, etc
- Weight: 2.8kg (Excluding lens)
- Input voltage range:  
AC100 - 240V  
50/60 Hz (125 - 240V is applicable by replacing the input plug. A kind of input plug consult your distributor).
- Power consumption: 10W
- Light with dimmer(100-50%)

**ENVL-FL**

- Free arm with casters stand
- Moveable in the reach of the power cord
- Weight: 12.8kg (Excluding lens)
- Input voltage range:  
AC100 - 240V  
50/60 Hz (125 - 240V is applicable by replacing the input plug. A kind of input plug consult your distributor.)
- Power consumption: 10W
- Light with dimmer(100-50%)



Measures in (mm)

## ROUND Series Interchangeable Lenses for SKKL & ENVL - Series:

8x



φ 90  
(quadruplet lens)

10x



φ 90  
(quadruplet lens)

12x



φ 90 (3 groups,  
quintuple lens) with  
polarizing filter as standard

15x



φ 90 (3 groups,  
sixtuple lens) with  
polarizing filter as standard

Part Number	Diopter	Magnification	Eye Point (mm)	Lens Diameter (mm)	Working Distance (mm)	View (mm)	Weight (g)
	2	1,50x	150	φ 130	160	φ 170	400
	3	1,75x	150	φ 130	130	φ 140	500
	4	2,00x	150	φ 130	110	φ 120	700
	6	2,50x	100	φ 105	82	φ 70	570
RL-8x	8	3,00x	105	φ 90	54	φ 40	1300
RL-10x	10	3,50x	80	φ 90	43	φ 40	1350
RL-12x	12	4,00x	80	φ 90	35	φ 40	1350
RL-15x	15	4,75x	65	φ 90	30	φ 30	1560

## WIDE Series Interchangeable Lenses for LEK WIDE-CF & LEK WIDE-F:

WIDE - 2x



φ 150  
(single piece lens)

WIDE - 3x



φ 150  
(single piece lens)

WIDE - 4x

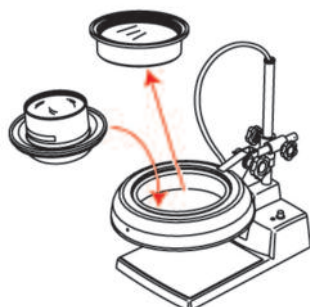


φ 150  
(double lens)

Part Number	Eye Point (mm)	Lens Diameter (mm)	Working Distance (mm)	View (mm)	Weight (g)
WIDE - 2x	150	φ 150	150	φ 200	700
WIDE - 3x	150	φ 150	120	φ 180	720
WIDE - 4x	150	φ 150	100	φ 160	1150
WIDE - 2x - AR	150	φ 150	150	φ 200	700
WIDE - 3x - AR	150	φ 150	120	φ 180	720
WIDE - 4x - AR	150	φ 150	100	φ 160	1150

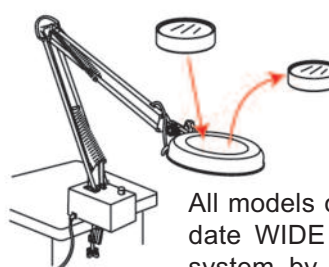
## How to Change Lens:

### SKKL & ENVL



All models of the SKKL and ENVL can accommodate all the magnifications of the Round series interchangeable lens system. The magnification can be easily changed by exchanging the lens and rubber frame together without using tool.

### LEK WIDE



All models of LEK can accommodate WIDE interchangeable lens system by exchanging lens and rubber frame without using tool.











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**THE END OF  
EYESTRAIN  
&  
REJECT**



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