

# ILLUMINATED MAGNIFIER

It is our mission to provide the supreme technology  
in the worldwide visual inspection market.



OOTSUKA

We strongly support users' visual inspection  
with our reliable technology.

# Introduction of illuminated magnifier

LED illuminated magnifier, with dimmer	
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with our reliable technology.

LED illuminated magnifier, with dimmer

# O-LIGHT III-L Series

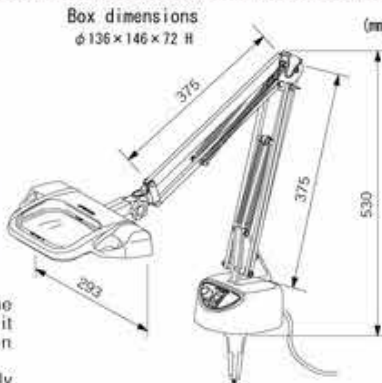
Since O-LIGHT III-LED use DC lighting system, it lights flicker a little.

## O-LIGHT III-L

**Rectangular lens**  
Distorted peripheral area of the rectangular lens is cut away, and it makes observation easier. An optical lens is used.  
RECTA-SYSTEM is suitable for only O-light III. We supply four types of lens magnification, which are 2X, 3.5X, 2XAR and 3.5XAR.

Box dimensions  
φ136 × 146 × 72 H




Clampable range 15~60

**RECTA SYSTEM**  
Interchangeable Lens

2X	3.5X	2X AR	3.5X AR
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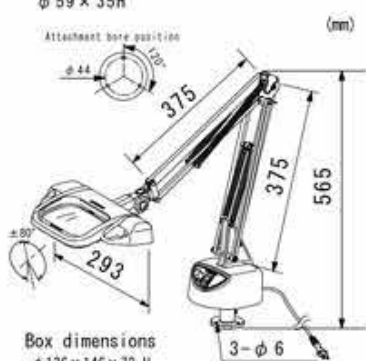
- Free arm and clamp type
- Lens: 2X 3.5X rectangular lenses
- Material of lens: optical glass (144X108 mm)
- Light source: LED light panel
- Input voltage range: AC100 ~ 240V※ 50/60 Hz (※125 ~ 240V is applicable by replacing the input plug. A kind of input plug consult your distributor.)
- Power consumption: 9W
- Light with dimmer (100% ~ 50%)
- Weight: (O-LIGHT III-L 2X) 2.8kg (O-LIGHT III-L 3.5X) 2.9kg

## O-LIGHT III L-FD



Flange base dimension  
φ 59 × 35H

Attachment bore position  
φ 44



Box dimensions  
φ 136 × 146 × 72 H

**RECTA SYSTEM**  
Interchangeable Lens

2X	3.5X	2X AR	3.5X AR
----	------	-------	---------

- Free arm and Fixed, desk holder type
- Lens: 2X 3.5X rectangular lenses
- Material of lens: optical glass (144 × 108 mm)
- Light source: LED light panel
- Input voltage range: AC100V ~ 240V※ 50/60Hz (※AC125 ~ 240V is applicable by replacing the input plug. A kind of input plug consult your distributor.)
- Power consumption: 9W
- Light with dimmer (100 ~ 50%)
- Weight: (O-LIGHT III-L-FD 2X) 2.5Kg (O-LIGHT III-L-FD 3.5X) 2.6Kg

Attention: This product does not become independent for a type to fix by a screw

## RECTA-SYSTEM

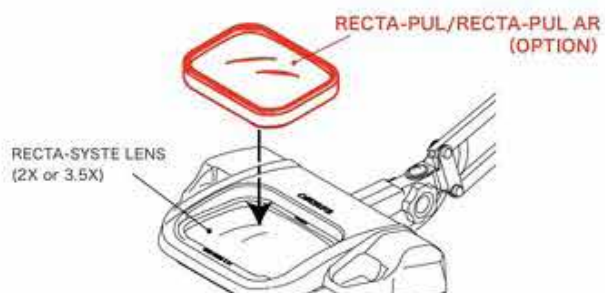
LENS



a rectangular interchangeable lens system requested by many customer is employed!  
Type of lens: 2X, 2XAR, 3.5X, 3.5XAR, RECTA-PUL, RECTA-PUL AR

## RECTA-PUL / RECTA-PUL AR

POWER UP LENS



- RECTA-SYSTEM 2X + RECTA-PUL/RECTA-PUL AR = **4X**
- RECTA-SYSTEM 3.5X + RECTA-PUL/RECTA-PUL AR = **5X**

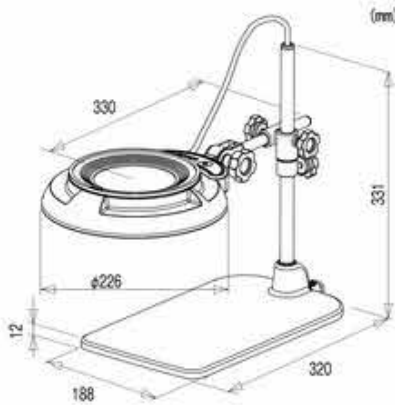
LED illuminated magnifier without dimmer

# SKKL Series

This newly designed slim head, specifically made for LEDs, uses a board-mounted LED with high color rendering ( $Ra \geq 90$ ) and heat radiation capabilities. The flat, diffuser and protection cover will provide shielding to the work and light source, as well as reducing the glare typically seen in LEDs. The ON/OFF switch has been placed on the head section for better control. (Excluding CL models)

SKKL Series No dimming

## SKKL-B

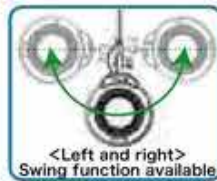


Interchangeable Lens

2X (φ130)	3X (φ130)	4X (φ130)	6X (φ105)
8X (φ90)	10X (φ90)	12X (φ90)	15X (φ90)

- With table stand
- Weight: 1.9kg (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 : 7W
- AC Adapter Dimensions : 96×44×29mm
- Power Cord Length : 1800mm (AC side)  
1800mm (DC side)

## SKKL-F



Interchangeable Lens

2X (φ130)	3X (φ130)	4X (φ130)	6X (φ105)
8X (φ90)	10X (φ90)	12X (φ90)	15X (φ90)

- Free arm and clamp type
- Free-type and versatile for inspection, designing, crafting, etc
- Weight: 2.0kg (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 : 7W
- AC Adapter Dimensions : 96×44×29mm
- Power Cord Length : 1800mm (AC side)  
1800mm (DC side)

### How to exchange lens

All models of the SKKL 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.

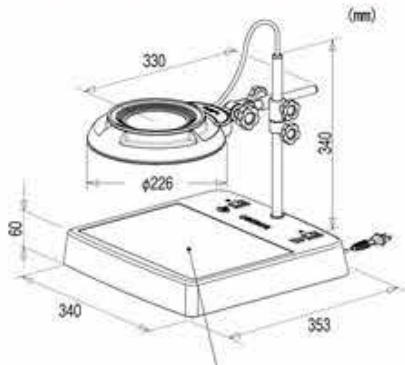


■ Round Series interchangeable lens system

2X (φ130)	3X (φ130)	4X (φ130)	6X (φ105)
8X (φ90)	10X (φ90)	12X (φ90)	15X (φ90)

## SKKL Series No dimming

### SKKL-CL



Light-emitting part Dimensions /210×298mm

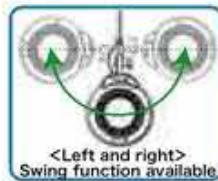
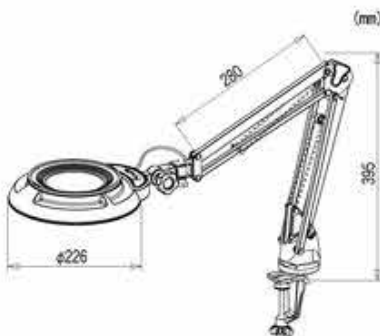


#### Interchangeable Lens

2X (φ130)	3X (φ130)	4X (φ130)	6X (φ105)
8X (φ90)	10X (φ90)	12X (φ90)	15X (φ90)

- 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: 7W+5W
- Power Cord Length : 1800mm

### SKKL-CF

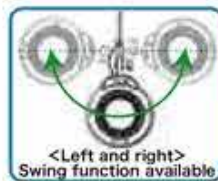
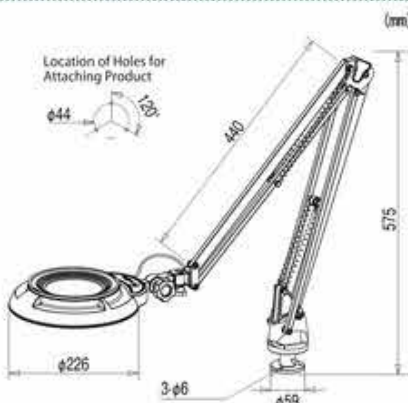


#### Interchangeable Lens

2X (φ130)	3X (φ130)	4X (φ130)	6X (φ105)
8X (φ90)	10X (φ90)	12X (φ90)	15X (φ90)

- Compact free arm and clamp type
- Free-type and versatile for inspection, designing, crafting, etc
- Weight: 1.8kg (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 : 7W
- AC Adapter Dimensions : 96×44×29mm
- Power Cord Length : 1800mm (AC side)  
1800mm (DC side)

### SKKL-FD



#### Interchangeable Lens

2X (φ130)	3X (φ130)	4X (φ130)	6X (φ105)
8X (φ90)	10X (φ90)	12X (φ90)	15X (φ90)

- Free arm and Fixed, desk holder type
- Weight : 1.9kg(Excludinglens)
- Input voltage range : AC100V ~ 240V※50/60Hz (※AC125 ~ 240V is applicable by replacing the input pulg. A kind of input purg consult your distributor.)
- Power consumption : 7W
- Attention:This product does not become independent for a type to fix by a screw
- AC Adapter Dimensions : 96×44×29mm
- Power Cord Length : 1800mm (AC side)  
1800mm (DC side)

LED illuminated magnifier without dimmer

# SKKL Series

We replaced the light source of the SKK series with LED, and released it as SKKL. The concept of development is to pursue the equivalent performance of the conventional fluorescent light, and to adopt the fluorescent light type LED. The electric power consumption is reduced to about 65%. The cost for 40,000 hours of operation is reduced to 1/3, and it is an Eco-friendly product suitable for growing calls of power shortage.

SKKL Series No dimming

## SKKL-FL

Interchangeable Lens

2X (φ130)	3X (φ130)	4X (φ130)	6X (φ105)
8X (φ90)	10X (φ90)	12X (φ90)	15X (φ90)

- Free arm with casters stand
- Moveable in the reach of the power cord
- Weight: 12.1kg (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: 7W
- AC Adapter Dimensions : 96×44×29mm
- Power Cord Length : 1800mm (AC side)  
1800mm (DC side)

<Left and right>  
Swing function available

## SKKL-D

Interchangeable Lens

2X (φ130)	3X (φ130)	4X (φ130)	6X (φ105)
8X (φ90)	10X (φ90)	12X (φ90)	15X (φ90)

Location of Holes for Attaching Product

- Fixed, desk holder type
- Weight: 1.1kg (Excluding lens)
- Input voltage range : AC100V ~ 240V※ 50/60Hz (※AC125 ~ 240V is applicable by replacing the input plug. A kind of input plug consult your distributor.)
- Power consumption : 7W
- AC Adapter Dimensions : 96×44×29mm
- Power Cord Length : 1800mm (AC side)  
1800mm (DC side)

Attention: This product does not become independent for a type to fix by a screw

## SKKL-MS

Interchangeable Lens

2X (φ130)	3X (φ130)	4X (φ130)	6X (φ105)
8X (φ90)	10X (φ90)	12X (φ90)	15X (φ90)

- Magnet stand type
- Weight: 2.1kg (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: 7W
- AC Adapter Dimensions : 96×44×29mm
- Power Cord Length : 1800mm (AC side)  
1800mm (DC side)

## SKKL-ST

Interchangeable Lens

2X (φ130)	3X (φ130)	4X (φ130)	6X (φ105)
8X (φ90)	10X (φ90)	12X (φ90)	15X (φ90)

- Long bar type
- Weight: 1.2kg (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: 7W
- AC Adapter Dimensions : 96×44×29mm
- Power Cord Length : 1800mm (AC side)  
1800mm (DC side)

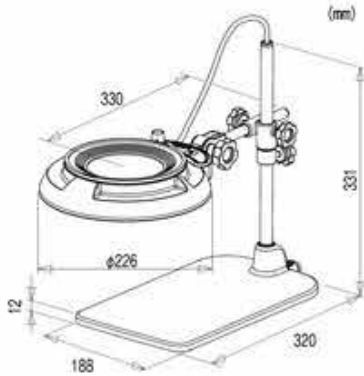
LED illuminated magnifier with dimmer

# ENVL Series

This newly designed slim head, specifically made for LEDs, uses a board-mounted LED with high color rendering ( $Ra \geq 90$ ) and heat radiation capabilities. The flat, diffuser and protection cover will provide shielding to the work and light source, as well as reducing the glare typically seen in LEDs. Care and effort was taken into the volume knob for easy light adjustment. Amount of light can be adjusted between 100% to approximately 10%. The ON/OFF switch has been placed on the head\* for better control. \*Excluding CL models.

ENVL Series Dimmable

## ENVL-B



Interchangeable Lens

2X (φ130)	3X (φ130)	4X (φ130)	6X (φ105)
8X (φ90)	10X (φ90)	12X (φ90)	15X (φ90)

- With table stand
- Weight: 1.9kg (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(100~10%)
- AC Adapter Dimensions : 96×44×29mm
- Power Cord Length : 1800mm (AC side)  
1800mm (DC side)

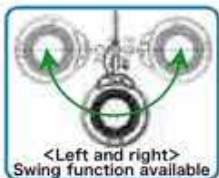
## ENVL-F



Interchangeable Lens

2X (φ130)	3X (φ130)	4X (φ130)	6X (φ105)
8X (φ90)	10X (φ90)	12X (φ90)	15X (φ90)

- Free arm and clamp type
- Free-type and versatile for inspection, designing, crafting, etc
- Weight: 2.0kg (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(100~10%)
- AC Adapter Dimensions : 96×44×29mm
- Power Cord Length : 1800mm (AC side)  
1800mm (DC side)



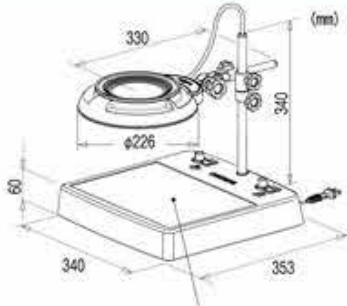
LED illuminated magnifier with dimmer

# ENVL Series

This newly designed slim head, specifically made for LEDs, uses a board-mounted LED with high color rendering ( $Ra \geq 90$ ) and heat radiation capabilities. The flat, diffuser and protection cover will provide shielding to the work and light source, as well as reducing the glare typically seen in LEDs. Care and effort was taken into the volume knob for easy light adjustment. Amount of light can be adjusted between 100% to approximately 10%. The ON/OFF switch has been placed on the head\* for better control. \*Excluding CL models.

ENVL Series Dimmable

## ENVL-CL



Light-emitting part Dimensions  
/210×298mm

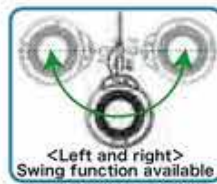
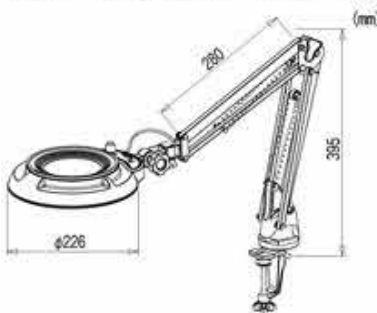


Interchangeable Lens

2X (φ130)	3X (φ130)	4X (φ130)	6X (φ105)
8X (φ90)	10X (φ90)	12X (φ90)	15X (φ90)

- 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+9W
- Light with dimmer(100~50%)
- Power Cord Length : 1800mm (AC side)

## ENVL-CF



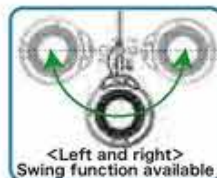
Interchangeable Lens

2X (φ130)	3X (φ130)	4X (φ130)	6X (φ105)
8X (φ90)	10X (φ90)	12X (φ90)	15X (φ90)

- Compact free arm and clamp type
- Free-type and versatile for inspection, designing, crafting, etc
- Weight: 1.8kg (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(100~10%)
- AC Adapter Dimensions :  
96×44×29mm
- Power Cord Length : 1800mm (AC side)  
1800mm (DC side)

## ENVL-FD

Location of Holes for Attaching Product



Interchangeable Lens

2X (φ130)	3X (φ130)	4X (φ130)	6X (φ105)
8X (φ90)	10X (φ90)	12X (φ90)	15X (φ90)

- Free arm and Fixed, desk holder type
- Weight: 1.9kg (Excluding lens)
- Input voltage range : AC100V ~ 240V※50/60Hz (※AC125 ~ 240V is applicable by replacing the input plug. A kind of input plug consult your distributor.)
- Power consumption : 10W
- Light with dimmer(100~10%)
- AC Adapter Dimensions :  
96×44×29mm
- Power Cord Length : 1800mm (AC side)  
1800mm (DC side)

Attention: This product does not become independent for a type to fix by a screw



### How to exchange lens

All models of the 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.



■ Round Series interchangeable lens system

2X (φ130)	3X (φ130)	4X (φ130)	6X (φ105)
8X (φ90)	10X (φ90)	12X (φ90)	15X (φ90)

## ENVL Series Dimmable

### ENVL-FL

Interchangeable Lens

2X (φ130)	3X (φ130)	4X (φ130)	6X (φ105)
8X (φ90)	10X (φ90)	12X (φ90)	15X (φ90)



- Free arm with casters stand
- Moveable in the reach of the power cord
- Weight: 12.1kg (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(100~10%)
- AC Adapter Dimensions : 96×44×29mm
- Power Cord Length : 1800mm (AC side)  
1800mm (DC side)



### ENVL-D

Interchangeable Lens

2X (φ130)	3X (φ130)	4X (φ130)	6X (φ105)
8X (φ90)	10X (φ90)	12X (φ90)	15X (φ90)



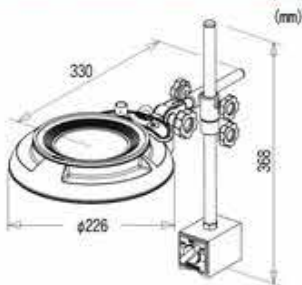
- Fixed, desk holder type
  - Weight: 1.1kg (Excluding lens)
  - Input voltage range: AC100 ~ 240V※  
50/60 Hz (※125 ~ 240V is applicable by replacing the input plug. A kind of input plug consult your distributor.)
  - Power consumption : 10W
  - light with dimmer(100~10%)
  - AC Adapter Dimensions : 96×44×29mm
  - Power Cord Length : 1800mm (AC side)  
1800mm (DC side)
- Attention: This product does not become independent for a type to fix by a screw



### ENVL-MS

Interchangeable Lens

2X (φ130)	3X (φ130)	4X (φ130)	6X (φ105)
8X (φ90)	10X (φ90)	12X (φ90)	15X (φ90)



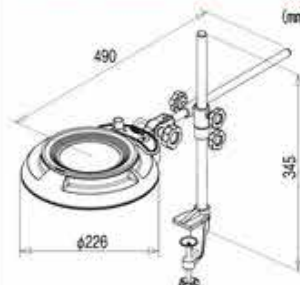
- Magnet stand type
- Weight: 2.1kg (Excluding lens)
- Input voltage range: AC100 ~ 240V※  
50/60 Hz (※125 ~ 240V is applicable by replacing the input plug. A kind of input plug consult your distributor.)
- Power consumption : 10W
- light with dimmer(100~10%)
- AC Adapter Dimensions : 96×44×29mm
- Power Cord Length : 1800mm (AC side)  
1800mm (DC side)



### ENVL-ST

Interchangeable Lens

2X (φ130)	3X (φ130)	4X (φ130)	6X (φ105)
8X (φ90)	10X (φ90)	12X (φ90)	15X (φ90)



- Long bar type
- Weight: 1.2kg (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
- light with dimmer(100~10%)
- AC Adapter Dimensions : 96×44×29mm
- Power Cord Length : 1800mm (AC side)  
1800mm (DC side)



# LEKs WIDE Series

We employed fluorescent lamp-type LED of high quality. We want to contribute to reduction of lighting power by having LED illuminated magnifiers used by more customers.

Lighting can only be turned ON/OFF, and cannot be adjusted for dimness.

## LEKs Series No dimming

### LEKs WIDE-B

Interchangeable Lens

WIDE 2X (φ150) WIDE 3X (φ150) WIDE 4X (φ150)

- With table stand
- Light source: LED (estimated life time: 40,000 hours)
- Weight of unit: 2.4kg (Excluding lens)
- Input voltage range: AC100 ~ 240V ※ 50/60 Hz (※ AC125 ~ 240V is applicable by replacing the input plug. A kind of input plug consult your distributor.)
- Power consumption: 13W

### LEKs WIDE-F

Interchangeable Lens

WIDE 2X (φ150) WIDE 3X (φ150) WIDE 4X (φ150)

- Free arm and clamp type
- Light source: LED (estimated life time: 40,000 hours)
- Weight of unit: 2.9kg (Excluding lens)
- Input voltage range: AC100 ~ 240V ※ 50/60 Hz (※ AC125 ~ 240V is applicable by replacing the input plug. A kind of input plug consult your distributor.)
- Power consumption: 13W

### LEKs WIDE-CL

Interchangeable Lens

WIDE 2X (φ150) WIDE 3X (φ150) WIDE 4X (φ150)

- Light box With transmission illumination
- Light source: LED (estimated life time: 40,000 hours)
- Weight of unit: 3.3g (Excluding lens)
- Input voltage range: AC100 ~ 240V ※ 50/60 Hz (※ AC125 ~ 240V is applicable by replacing the input plug. A kind of input plug consult your distributor.)
- Power consumption: 13W+5W

### LEKs WIDE-CF

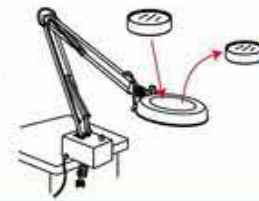
Interchangeable Lens

WIDE 2X (φ150) WIDE 3X (φ150) WIDE 4X (φ150)

- Compact free arm and clamp type
- Light source: LED (estimated life time: 40,000 hours)
- Weight of unit: 2.7kg (Excluding lens)
- Input voltage range: AC100 ~ 240V ※ 50/60 Hz (※ AC125 ~ 240V is applicable by replacing the input plug. A kind of input plug consult your distributor.)
- Power consumption: 13W

## How to exchange lens

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



WIDE interchangeable lens system



## LEKs Series No dimming

### LEKs WIDE-FD

Interchangeable Lens

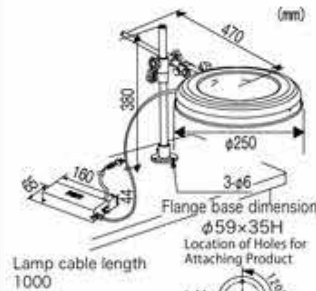


- Free arm and Fixed, desk holder type
- Light source: LED (estimated life time: 40,000 hours)
- Weight of unit: 2.7kg (Excluding lens)
- Input voltage range: AC100V ~ 240V ※ 50/60Hz (※ AC125 ~ 240V is applicable by replacing the input plug. A kind of input plug consult your distributor.)
- Power consumption: 13W
- Attention: This product does not become independent for a type to fix by a screw



### LEKs WIDE-D

Interchangeable Lens

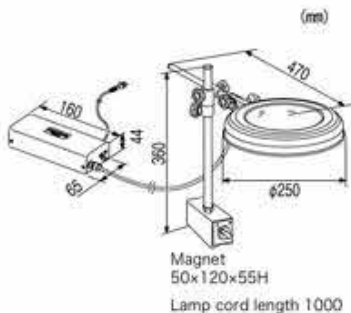


- Fixed, desk holder type
- Light source: LED (estimated life time: 40,000 hours)
- Weight of unit: 1.8kg (Excluding lens)
- Input voltage range: AC100V ~ 240V ※ 50/60Hz (※ AC125 ~ 240V is applicable by replacing the input plug. A kind of input plug consult your distributor.)
- Power consumption: 13W
- Attention: This product does not become independent for a type to fix by a screw



### LEKs WIDE-MS

Interchangeable Lens

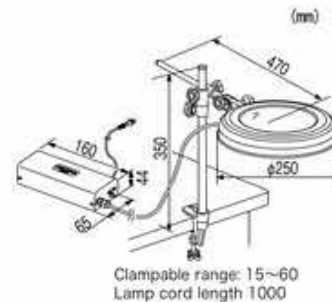


- Magnet stand type
- Light source: LED (estimated life time: 40,000 hours)
- Weight of unit: 3.7kg (Excluding lens)
- Input voltage range: AC100 ~ 240V ※ 50/60 Hz (※ AC125 ~ 240V is applicable by replacing the input plug. A kind of input plug consult your distributor.)
- Power consumption: 13W



### LEKs WIDE-ST

Interchangeable Lens



- Long bar type
- Light source: LED (estimated life time: 40,000 hours)
- Weight of unit: 1.9kg (Excluding lens)
- Input voltage range: AC100 ~ 240V ※ 50/60 Hz (※ AC125 ~ 240V is applicable by replacing the input plug. A kind of input plug consult your distributor.)
- Power consumption: 13W



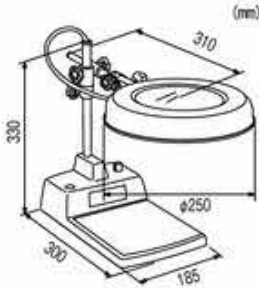
# LEK WIDE Series

We employed fluorescent lamp-type LED of high quality. We want to contribute to reduction of lighting power by having LED illuminated magnifiers used by more customers.

## LEK Series Dimmable

### LEK WIDE-B

Interchangeable Lens

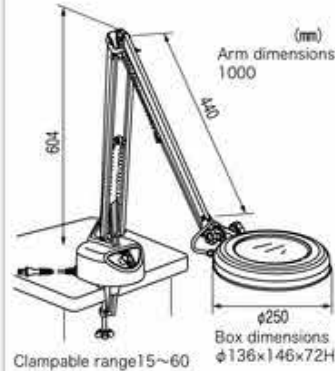


- With table stand
- Light source: LED (estimated life time: 40,000 hours)
- Weight of unit: 2.4kg (Excluding lens)
- Input voltage range: AC100 ~ 240V ※ 50/60 Hz (※ AC125 ~ 240V is applicable by replacing the input plug. A kind of input plug consult your distributor.)
- Power consumption: 13W
- Light with dimmer (100~50%)



### LEK WIDE-F

Interchangeable Lens

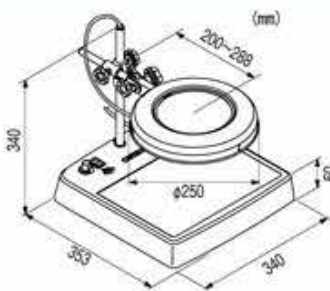


- Free arm and clamp type
- Light source: LED (estimated life time: 40,000 hours)
- Weight of unit: 2.9kg (Excluding lens)
- Input voltage range: AC100 ~ 240V ※ 50/60 Hz (※ AC125 ~ 240V is applicable by replacing the input plug. A kind of input plug consult your distributor.)
- Power consumption: 13W
- Light with dimmer (100~50%)



### LEK WIDE-CL

Interchangeable Lens

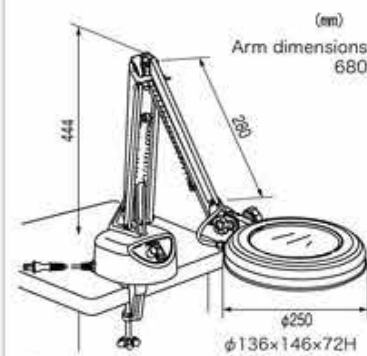


- Light box With transmission illumination
- Light source: LED (estimated life time: 40,000 hours)
- Weight of unit: 3.3kg (Excluding lens)
- Input voltage range: AC100 ~ 240V ※ 50/60 Hz (※ AC125 ~ 240V is applicable by replacing the input plug. A kind of input plug consult your distributor.)
- Power consumption: 13W+9W
- Light with dimmer (100~50%)



### LEK WIDE-CF

Interchangeable Lens

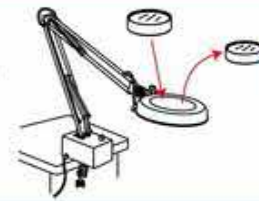


- Compact free arm and clamp type
- Light source: LED (estimated life time: 40,000 hours)
- Weight of unit: 2.7kg (Excluding lens)
- Input voltage range: AC100 ~ 240V ※ 50/60 Hz (※ AC125 ~ 240V is applicable by replacing the input plug. A kind of input plug consult your distributor.)
- Power consumption: 13W
- Light with dimmer (100~50%)



## How to exchange lens

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



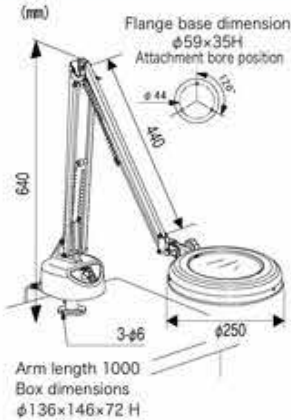
WIDE interchangeable lens system



## LEK Series Dimmable

### LEK WIDE-FD

Interchangeable Lens

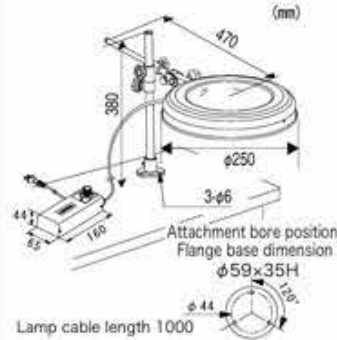


- Free arm and Fixed, desk holder type
  - Light source: LED (estimated life time: 40,000 hours)
  - Weight of unit: 2.7kg (Excluding lens)
  - Input voltage range: AC100V ~ 240V ※ 50/60Hz (※ AC125 ~ 240V is applicable by replacing the input plug. A kind of input plug consult your distributor.)
  - Power consumption: 13W
  - Light with dimmer (100 ~ 50%)
- Attention: This product does not become independent for a type to fix by a screw



### LEK WIDE-D

Interchangeable Lens

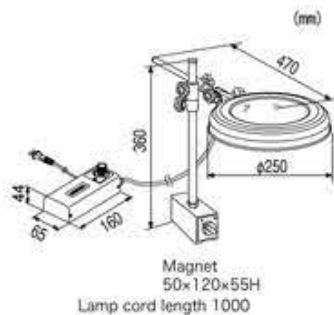


- Fixed, desk holder type
  - Light source: LED (estimated life time: 40,000 hours)
  - Weight of unit: 1.8kg (Excluding lens)
  - Input voltage range: AC100V ~ 240V ※ 50/60Hz (※ AC125 ~ 240V is applicable by replacing the input plug. A kind of input plug consult your distributor.)
  - Power consumption: 13W
- Attention: This product does not become independent for a type to fix by a screw



### LEK WIDE-MS

Interchangeable Lens

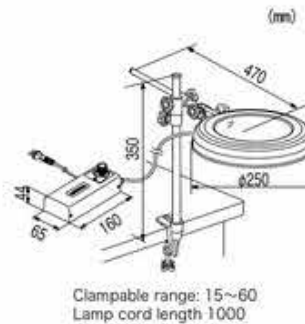


- Magnet stand type
- Light source: LED (estimated life time: 40,000 hours)
- Weight of unit: 3.7kg (Excluding lens)
- Input voltage range: AC100 ~ 240V ※ 50/60 Hz (※ AC125 ~ 240V is applicable by replacing the input plug. A kind of input plug consult your distributor.)
- Power consumption: 13W
- Light with dimmer (100 ~ 50%)



### LEK WIDE-ST

Interchangeable Lens



- Long bar type
- Light source: LED (estimated life time: 40,000 hours)
- Weight of unit: 1.9kg (Excluding lens)
- Input voltage range: AC100 ~ 240V ※ 50/60 Hz (※ AC125 ~ 240V is applicable by replacing the input plug. A kind of input plug consult your distributor.)
- Power consumption: 13W
- Light with dimmer (100 ~ 50%)



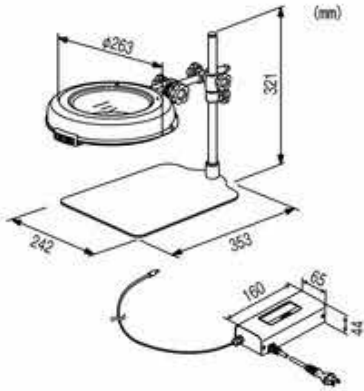
LED illuminated magnifier

# LSKs Series

LSKs / LSK Series have the High quality LED illumination, long service life, and excellent environment performance. We will strongly support the customer's visual inspection processes with less facility investment, more high optical quality, and excellent energy saving performance.

LSKs Series **Dimmable**

## LSKs-B

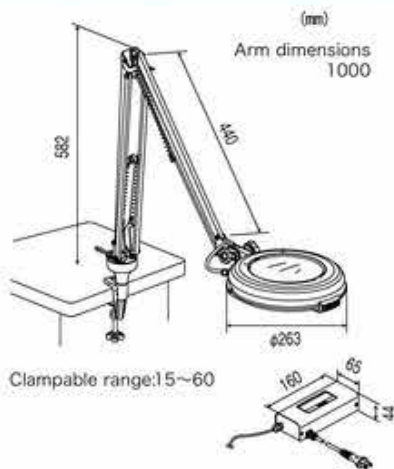


Interchangeable Lens

2X (φ130)	3X (φ130)	4X (φ130)	6X (φ105)
PRICE 2X (φ150)	PRICE 3X (φ150)	PRICE 4X (φ150)	

- With table stand
- Light source: LED (estimated life time: 40,000 hours)
- Weight of unit: 3.2kg (Excluding lens)
- Special power supply: PS15C is attached.
- Input voltage range: AC100 ~ 240V  
※ 50/60 Hz (※ AC125 ~ 240V is applicable by replacing the input plug. A kind of input plug consult your distributor.)
- Power consumption: 11W

## LSKs-F



Interchangeable Lens

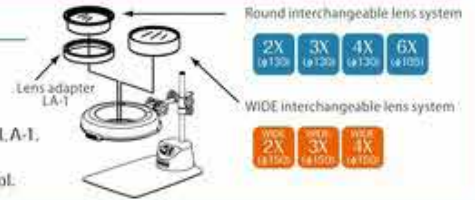
2X (φ130)	3X (φ130)	4X (φ130)	6X (φ105)
PRICE 2X (φ150)	PRICE 3X (φ150)	PRICE 4X (φ150)	

- Free arm and clamp type
- Light source: LED (estimated life time: 40,000 hours)
- Weight of unit: 3.2kg (Excluding lens)
- Input voltage range: AC100 ~ 240V ※ 50/60 Hz (※ AC125 ~ 240V is applicable by replacing the input plug. A kind of input plug consult your distributor.)
- Power consumption: 13W



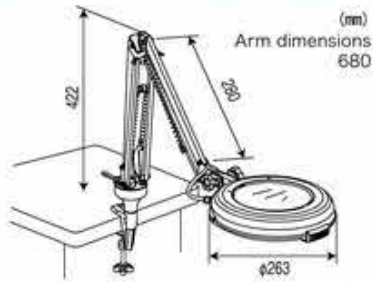
### How to exchange lens

All models of LSKs and LSK can accommodate from 2X to 6X magnifications of the Round series interchangeable lens system and WIDE interchangeable lens system by using lens adapter LA-1. The magnification can be easily changed by exchanging lens and rubber frame without using tool.



## LSKs Series Dimmable

### LSKs-CF



Clampable range: 15~60

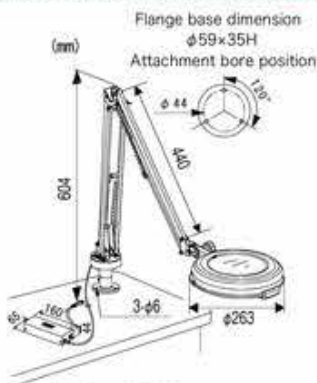


#### Interchangeable Lens

2X (φ130)	3X (φ130)	4X (φ130)	6X (φ105)
WIDE 2X (φ150)	WIDE 3X (φ150)	WIDE 4X (φ150)	

- Compact free arm and clamp type
- Light source: LED (estimated life time: 40,000 hours)
- Weight of unit: 3.0kg (Excluding lens)
- Input voltage range: AC100 ~ 240V ※ 50/60 Hz (※ AC125 ~ 240V is applicable by replacing the input plug. A kind of input plug consult your distributor.)
- Power consumption: 11W

### LSKs-FD



Arm length 1000  
Box dimensions  
φ136×146×72H

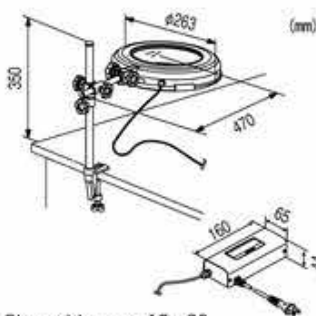


#### Interchangeable Lens

2X (φ130)	3X (φ130)	4X (φ130)	6X (φ105)
WIDE 2X (φ150)	WIDE 3X (φ150)	WIDE 4X (φ150)	

- Free arm and Fixed, desk holder type
- Light source: LED (estimated life time: 40,000 hours)
- Weight of unit: 3.3kg (Excluding lens)
- Input voltage range: AC100V ~ 240V ※ 50/60 Hz (※ AC125 ~ 240V is applicable by replacing the input plug. A kind of input plug consult your distributor.)
- Power consumption: 11W
- Attention: This product does not become independent for a type to fix by a screw

### LSKs-ST



Clampable range: 15~60



#### Interchangeable Lens

2X (φ130)	3X (φ130)	4X (φ130)	6X (φ105)
WIDE 2X (φ150)	WIDE 3X (φ150)	WIDE 4X (φ150)	

- Long bar type
- Light source: LED (estimated life time: 40,000 hours)
- Weight of unit: 2.1kg (Excluding lens)
- Input voltage range: AC100 ~ 240V ※ 50/60 Hz (※ AC125 ~ 240V is applicable by replacing the input plug. A kind of input plug consult your distributor.)
- Power consumption: 11W

# LSK Series

LSKs / LSK Series have the High quality LED illumination, long service life, and excellent environment performance. We will strongly support the customer's visual inspection processes with less facility investment, more high optical quality, and excellent energy saving performance.

## LSK Series Dimmable

### LSK-B

Interchangeable Lens

2X (φ130)	3X (φ130)	4X (φ130)	6X (φ105)
WIDE 2X (φ150)	WIDE 3X (φ150)	WIDE 4X (φ150)	

- With table stand
- Light source: LED (estimated life time: 40,000 hours)
- Weight of unit: 4.4kg (Excluding lens)
- Input voltage range: AC100 ~ 240V ※ 50/60 Hz (※ AC125 ~ 240V is applicable by replacing the input plug. A kind of input plug consult your distributor.)
- Power consumption: 12W
- light With dimmer (100 ~ 50%)

### LSK-F

Interchangeable Lens

2X (φ130)	3X (φ130)	4X (φ130)	6X (φ105)
WIDE 2X (φ150)	WIDE 3X (φ150)	WIDE 4X (φ150)	

Box dimensions φ136×146×72H  
Clampable range: 15~60

- Free arm and clamp type
- Light source: LED (estimated life time: 40,000 hours)
- Weight of unit: 2.9kg (Excluding lens)
- Input voltage range: AC 100 ~ 240V ※ 50/60 Hz (※ AC125 ~ 240V is applicable by replacing the input plug. A kind of input plug consult your distributor.)
- Power consumption: 13W
- light With dimmer (100~50%)

<Left and right>  
Swing function available

### LSK-CF

Interchangeable Lens

2X (φ130)	3X (φ130)	4X (φ130)	6X (φ105)
WIDE 2X (φ150)	WIDE 3X (φ150)	WIDE 4X (φ150)	

Box dimensions φ136×146×72H  
Clampable range: 15~60

- Compact free arm and clamp type
- Light source: LED (estimated life time: 40,000 hours)
- Weight of unit: 2.6kg (Excluding lens)
- Input voltage range: AC100 ~ 240V ※ 50/60 Hz (※ AC125 ~ 240V is applicable by replacing the input plug. A kind of input plug consult your distributor.)
- Power consumption: 13W
- light With dimmer (100~50%)

<Left and right>  
Swing function available

### LSK-FD

Interchangeable Lens

2X (φ130)	3X (φ130)	4X (φ130)	6X (φ105)
WIDE 2X (φ150)	WIDE 3X (φ150)	WIDE 4X (φ150)	

Flange base dimension φ59×35H  
Attachment hole position: φ44, φ50, φ56

Arm length 1000  
Box dimensions φ136×146×72 H

- Free arm and Fixed, desk holder type
- Light source: LED (estimated life time: 40,000 hours)
- Weight of unit: 2.9kg (Excluding lens)
- Input voltage range: AC100V ~ 240V ※ 50/60Hz (※ AC125 ~ 240V is applicable by replacing the input plug. A kind of input plug consult your distributor.)
- Power consumption: 13W
- light with dimmer (100 ~ 50%)

Attention: This product does not become independent for a type to fix by a screw

<Left and right>  
Swing function available



illuminated magnifier without dimmer

# O-LIGHT Series

Since both O-LIGHT used inverter-type electronic ballast, their lights flicker a little.

## O-LIGHT Series Dimmable

### O-LIGHT III

RECTA SYSTEM Interchangeable Lens

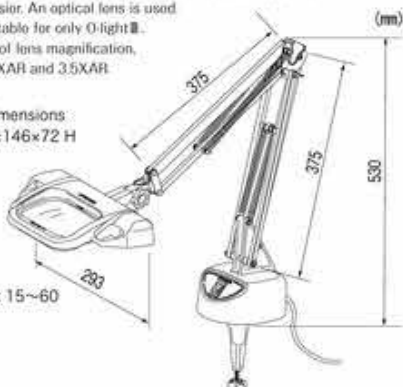
- 2X
- 3.5X
- 2X AR
- 3.5X AR

**Rectangular lens**

Distorted peripheral area of the rectangular lens is cut away, and it makes observation easier. An optical lens is used. RECTA-SYSTEM is suitable for only O-light III. We supply four types of lens magnification, which are 2X, 3.5X, 2XAR and 3.5XAR.

Box dimensions:  $\phi 136 \times 146 \times 72$  H

Clampable range: 15~60



- Free arm and clamp type
- Lens: 2X rectangular lens and 3.5X rectangular lens
- Lamp: FPL27AX
- Input voltage: AC100V 50-60Hz only
- Power consumption: 27W
- Lighting method: electric ballast.
- Weight: (O-LIGHT III 2X) 3.2kg (O-LIGHT III 3.5X) 3.3kg
- Aplug with earth and plug adapter.

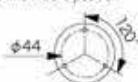
### O-LIGHT III - FD

RECTA SYSTEM Interchangeable Lens

- 2X
- 3.5X
- 2X AR
- 3.5X AR

Flange base dimension  $\phi 59 \times 35$ H

Attachment bore position



$\pm 80^\circ$



Box dimensions  $\phi 136 \times 146 \times 72$  H



- Free arm and Fixed, desk holder type
- Lens: 2X, 3.5X rectangular lenses
- Material of lens: optical glass (144x108mm)
- light source: FPL27AX
- Input voltage range : AC100V 50-60 Hz only
- Power consumption : 27W
- Weight : (O-LIGHT III - FD 2X) 2.4Kg (O-LIGHT III - FD 3.5X) 2.5Kg
- Aplug with earth and plug adapter. Attention: This product does not become independent for a type to fix by a screw

### O-LIGHT F

RECTA SYSTEM Interchangeable Lens

- 2X
- 3X
- 4X
- 6X
- 8X
- 10X
- 12X
- 15X

Box dimensions  $\phi 136 \times 146 \times 72$  H

Clampable range: 15~60



- Free arm and clamp type
- Lamp : FCL20N/18
- Input voltage: AC100V 50-60 Hz only
- Power consumption: 25W
- Lighting method: electric ballast.
- Lens : Round series interchangeable lens system
- Magnification: 2X, 3X, 4X, 6X, 8X, 10X, 12X, 15X
- Aplug with earth
- Weight: 2.5kg

# OSL Series

Square series, OSL is a product with a rectangular lens, which uses the area near its optic axis to make wide-field viewing possible. Although the size of the lens is a little smaller than that of Square-series WIDE, we provide 2 kinds of lenses of x2 and x4 magnifications for the use in various scenes. Lighting can only be turned ON/OFF, and cannot be adjusted for dimness.

## OSL Series Dimmable

### OSL-1

Fixed Lens

2X 4X

- Light box With transmission illumination
- Weight: 6.5kg
- Power consumption: 36W
- Lamp: FL6N (four pieces)

### OSL-2

Fixed Lens

2X 4X

- With table stand
- Weight: 6.5kg
- Power consumption: 18W
- Lamp: FL6N (two pieces)

### OSL-3

Fixed Lens

2X 4X

Clampable range 15~60

Box dimensions 150X150X70H

- Clamp stand type
- Weight: 6.0kg
- Power consumption: 18W
- Lamp: FL6N (two pieces)

### OSL-4

Fixed Lens

2X 4X

Clampable range 15~60

Box dimensions 150X150X70H

- Free arm and clamp type
- Weight: 5.5kg
- Power consumption: 18W
- Lamp: FL6N (two pieces)

# WIDE Series

Square-series WIDE is a product with a highest grade large aperture rectangular lens, which uses the area near to its optic axis to make wide-field viewing possible.

We pursued the user-friendliness by such processes just like finishing a beautiful piece of diamond out of a large piece of diamond raw stone.

Lighting can only be turned ON/OFF, and cannot be adjusted for dimness.

## WIDE Series Dimmable

### WIDE-1

Fixed Lens  
2X

- Light box With transmission illumination
- Weight: 13.7kg
- Power consumption: 44W
- Lamp: FL8N (four pieces)

### WIDE-2

Fixed Lens  
2X

- With table stand
- Weight: 13.7kg
- Power consumption: 22W
- Lamp: FL8N (two pieces)

### WIDE-3

Fixed Lens  
2X

Box dimensions 150X150X80H

- With clamp stand
- Weight: 11.5kg
- Power consumption: 22W
- Lamp: FL8N (two pieces)

Maximum clamping thickness 70

### WIDE-4

Fixed Lens  
2X

Box dimensions 150X150X80H

- Free arm and clamp type
- Lamp: FL8N (two pieces)
- Weight: 12.5kg
- Power consumption: 22W
- Lamp: FL8N (two pieces)

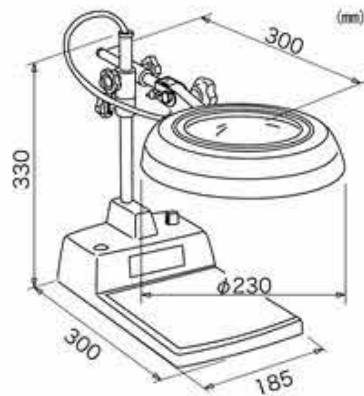
Maximum clamping thickness 70

# SKK Series

Since its first release, for 40 years, the illuminated magnifier SKK series has been supporting improvement of productivity and quality.

Because of the minimized number of parts in it, it is priced low but fails less and realizes high reliability. The durability proved by 40-year achievement in every working environment still supports the inspection process of the users strongly.

## SKK-B

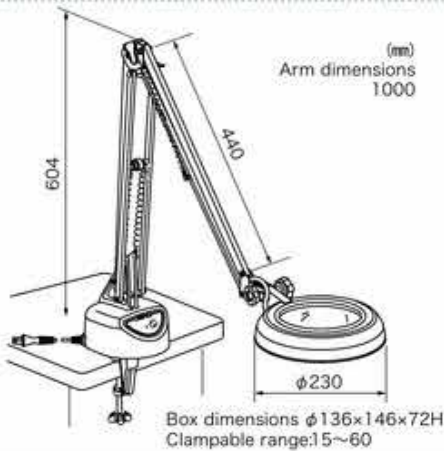


### Interchangeable Lens

2X (φ130)	3X (φ130)	4X (φ130)	6X (φ105)
8X (φ90)	10X (φ90)	12X (φ90)	15X (φ90)

- With table stand
- Weight: 2.7kg (Excluding lens)
- Power consumption: 23W
- Lamp: FCL20N/18

## SKK-F

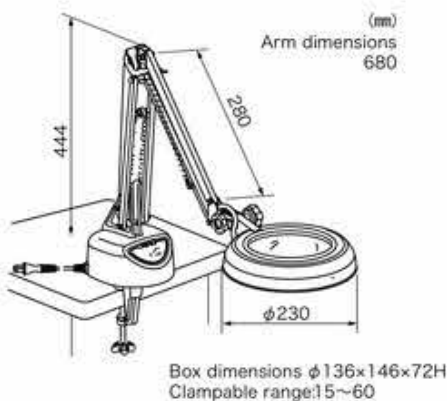


### Interchangeable Lens

2X (φ130)	3X (φ130)	4X (φ130)	6X (φ105)
8X (φ90)	10X (φ90)	12X (φ90)	15X (φ90)

- Free arm and clamp type
- Free-type and versatile for inspection, designing, crafting, etc
- Weight: 3.0kg (Excluding lens)
- Power consumption: 23W
- Lamp: FCL20N/18

## SKK-CF



### Interchangeable Lens

2X (φ130)	3X (φ130)	4X (φ130)	6X (φ105)
8X (φ90)	10X (φ90)	12X (φ90)	15X (φ90)

- Compact free arm and clamp type
- Free-type and versatile for inspection, designing, crafting, etc
- Weight: 2.7kg (Excluding lens)
- Power consumption: 23W
- Lamp: FCL20N/18

LED illuminated Loupe for checking the holes, grooves, and inside walls.

# BORELOUPE Series

It is suitable for simple check holes or deep grooves in mass production workshops.

A bright white LED is used at the light source and the line magnification of the loupe lens can be switched between 2X and 3X. The dust prevention cover is installed to the objective lens end and the protection cover is installed to the upper lens.

## BORELOUPE-F

- Free arm and clamp type
- Lens magnification: Switchable between 2X and 3X (Line magnification)
- Effective diameter of lens:  $\phi 40$
- Weight: 2.0kg
- Light source: LED light (estimated life time: 40,000hours)
- Input voltage range: AC100 ~ 240V 50/60 Hz
- Power consumption: 1.2W

Clampable range: 15~60

## BORELOUPE-ST

- Long bar type
- Lens magnification: Switchable between 2X and 3X (Line magnification)
- Effective diameter of lens:  $\phi 40$
- Weight: 1.3kg
- Light source: LED light (estimated life time: 40,000hours)
- Input voltage range: AC100 ~ 240V 50/60 Hz
- Power consumption: 1.2W

Clampable range: 15~60

## Comparison of between BORELOUPE and nearby lighting method

	Inside of pen cap	Burrs in horizontal hole	Deep hole made by die casting
Object			
Field of view of BORELOUPE			
Field of view of nearby lighting			

BORELOUPE is an illuminated loupe consisting of two lenses. Since the coaxial lighting optical system is employed, Bore loupe can light up parts which cannot be lit up and are difficult to check with an ordinary illuminated magnifier or an illuminated loupe.

A bright white LED is used at the light source and the line magnification of the loupe lens can be switched between 2X and 3X. The dust prevention cover is installed to the objective lens end and the protection cover is installed to the upper lens. There are two types of the stand: model F of free arm type and Model ST in which the crossbar is jointed to the stand pole.

### ● Selection process and standard for lenses

Lens magnification (line magnification)	How to change lenses	Eye-point (mm)	Working distance (mm)
2X	Use by swinging the top lens.	10~200	147
3X	Use by layering 2 lenses.	10~200	55

Eye-point and working distance will vary in accordance to the eyesight and age of the viewer.

### BORELOUPE Deference in lighting method

Proximity lighting system

It can light up not only surface brightly but also inside deep hole.

It can light up the surface brightly. But the end of deep hole is shaded, because the light is applied obliquely.

It can light up the surface evenly and brightly, but the end of deep hole is shaded and dark since the light is applied obliquely.

### The polarizing filter for BORELOUPE (Exclusive use for 3X lens)



The polarizing filter has a characteristic of transmitting only the light wave components in one oscillating direction among components in random oscillating directions.

Using this characteristic, unnecessary surface reflecting light from a specimen can be estimated to improved observation and inspection efficiency, and reduce fatigue. This filter also has dimming effect and can reduce the intensity of light from a fluorescent lamp.



### The Power up lens for BORELOUPE (Exclusive use for 3X lens)

When 3x or large magnification is necessary, you can increase the magnification to 3.3x by simply mounting this lens onto the upper lens. If this option is used, the working distance (the distance between the bottom of the BORELOUPE and the specimen) becomes very short. Take care not to hit the specimen against the glass parts in the BORELOUPE.



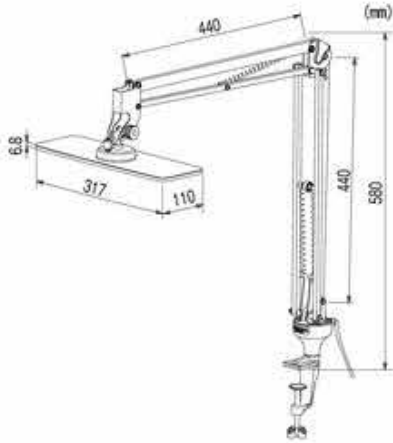
### The Extender of working distance for BORELOUPE (Exclusive use for 3X lens)

Mounting it on 3X lens could make working distance 3 times (not changing magnification, normally working distance is 55mm). If you use the power up lens for BORELOUPE with it, magnification could become 3.8X and working distance could become 38mm.

# MODELIGHT EL Series

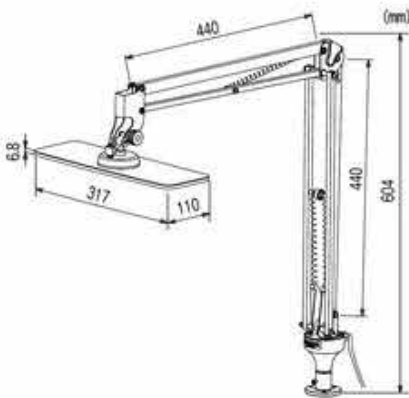
MODELIGHT EL adopted the latest organic EL panel. It is a new work and inspection lighting which Otsuka thinks.

## MODELIGHT EL - F



- Free arm and clamp type
- Light source : Organic EL
- Average of rendering index Ra : Ra:93 (Ra $\geq$ 88)  
R9,R13,R15:90  
(R9,R13,R15 $\geq$ 85)
- Light with dimmer : 100~0%
- Input voltage range and frequency : 100V 50/60Hz
- Power consumption : 6W
- Weight : 2.3kg(Excluding AC adopter)

## MODELIGHT EL - FD



- Free arm and fixed, desk holder type
- Light source : Organic EL
- Average of rendering index Ra : Ra:93 (Ra $\geq$ 88)  
R9,R13,R15:90  
(R9,R13,R15 $\geq$ 85)
- Light with dimmer : 100~0%
- Input voltage range and frequency : 100V 50/60Hz
- Power consumption : 6W
- Weight : 2.2kg(Excluding AC adopter)

# BARLIGHT Series

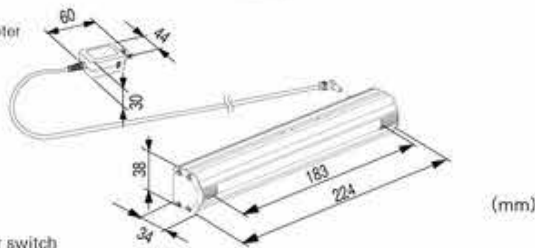
Inspection of scratches, unevenness and deposits on painted and plated surfaces, debris and scratches on silicon wafers, unevenness of embossments and waviness of panel surfaces.

- Checking glass or plastic plate surfaces for dust
- Checking molded plastic or rubber products of sinks and lighting of mark-off lines for cutting work or jigsaw work.
- Checking painted, plated, or embossed surfaces for flaws and unevenness.
- Auxiliary lighting for illuminated magnifier ( effective when the work piece is difficult to see because of incident illumination)

## BARLIGHT II



AC adapter



The power switch

There is it on the back side of the irradiation head part.

The irradiation data is the value measured at the center of irradiation head in a darkroom. It is the data of one of mass-produced products and is not an assured data.

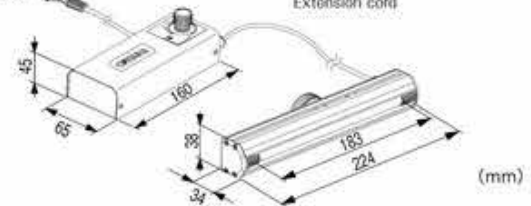
## BARLIGHT III



Power cord

Power supply module

Extension cord



The irradiation data is the value measured at the center of irradiation head in a darkroom. It is the data of one of mass-produced products and is not an assured data.

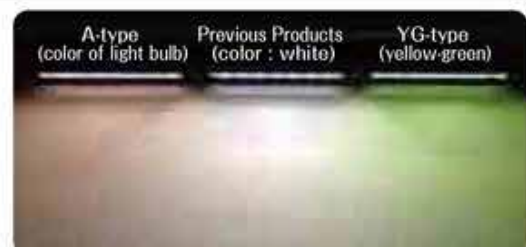
		BARLIGHT II	BARLIGHT III
Light source		High luminance white LED 7 bulbs	
Rated input voltage		AC100V 50/60Hz ※1	
Power cable length(unit : mm)		Power cable : 1800	Power cord : 1800 Extension cord : 1500
Power consumption		8 W	9 W
Specification temperature range		0°C~40°C	
Dustproof and waterproof protection grade		IP40	
Illumination intensity ※2	Irradiation spread angle of 6 degrees	150mm:15000Lx, 200mm:10000Lx, 300mm:5800Lx, 400mm:3600Lx	
	Irradiation spread angle of 30 degrees	150mm:10000Lx 200mm:6500Lx 300mm:3300Lx 400mm:2000Lx	
Dimming function (100% to 50%)		×	○
Irradiation spread angle adjustment function		×	○ (6°~30°)
Weight		370g	945g
Weight of the illumination head unit only		300g	420g

※1 Up to 240V (50/60Hz) can be supported by changing a cable with plug. Please contact our distributors.

※2 Illumination intensity data is measured at the center of the irradiation head in a darkroom. It is data of a unit extracted from mass-produced units, and is not a guaranteed data.

### BARLIGHT II/III A-type (color of light bulb), YG-type (yellow-green)

Lowers fatigue to the eye of workers, and supports variation to the color, material, gloss, etc. of the subject being inspected.



# BARLIGHT II/III - G

# BARLIGHT II/III - F

# OPTION



Optional BARLIGHT grip and BARLIGHT Free-Arm mounting examples (Main unit is BARLIGHT II)

## BARLIGHT GRIP

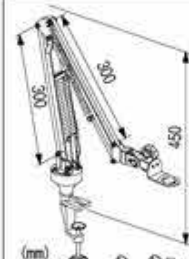
This grip is attachable to the BARLIGHT with decorative screws. It is most suitable for viewing large works or internal observation of large equipment.



Decorative screws (2pcs)

## BARLIGHT FREEARM

It is a free arm type clamp stand. You can adjust the illuminating angle to various works very finely and easily.



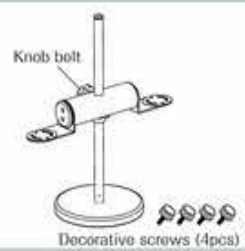
Clampable range: 15~60

Decorative screws (2pcs)

TILT STAND (unit: mm)	
Adjusting direction	Z (Height) θ (Angle of elevation and depression) α (Horizontal angle)
Vertical bar	φ13
Dimensions	Base φ129, Height φ307
Weight	1.6kg
Using temperature range	0°C~40°C



DOUBLE TILT STAND (unit: mm)	
Adjusting direction	Z (Height) θ (Angle of elevation and depression) α (Horizontal angle) Horizontal angle is adjustable
Vertical bar	φ13
Dimensions	Base φ129, Height φ307
Weight	2.1kg
Using temperature range	0°C~40°C



## BARLIGHT, an inspection luminaire that Otsuka has developed on the basis of the users' voices

Contrast cannot be obtained if coaxial lighting is used. Scratches on a painted surfaces or dusts before painting are not visible. Due to vast number of inspection for molded articles, oversights occurs. Scratches, etc. become visible by increasing the magnification of a magnifier, but doing so can fatigue workers' eyes.

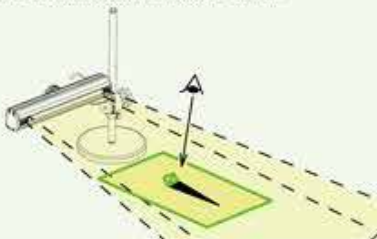


Roughness casts shadows and enhances contrast against surroundings. It emphasizes the detailed roughness and fine deposits on surfaces. The workers do not need to strain their eyes to check for defects, and can work easily. It makes possible to find defects even with lower magnification lenses.

### Two inspection methods that Otsuka proposes.

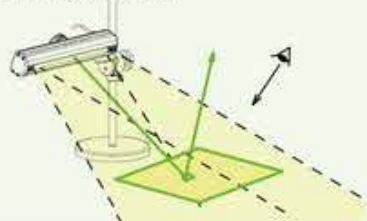
#### Surface irradiation method

A plane light is radiated along the surface to be inspected to emphasize unevenness and detect flaws, dust, or defects.



#### Diffused reflection method

A wide light is radiated over the workpiece at a certain angle to check the reflected light. Unevenness of flaw or foreign materials is emphasized by diffusing only the light applied to them.



Comparison of sink marks and roughness on surfaces of plastic injection molded parts. (Surface irradiation method)

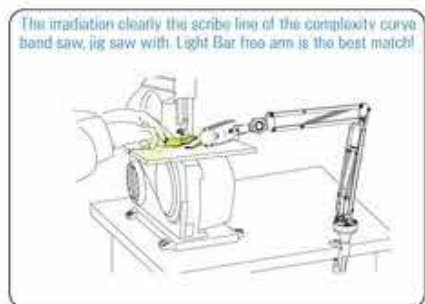
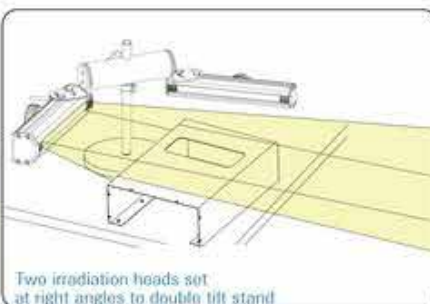
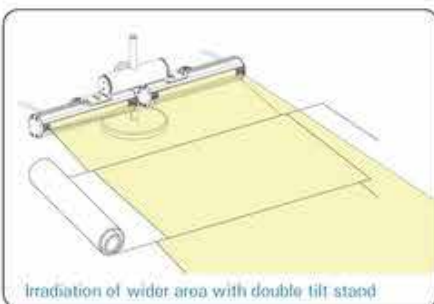
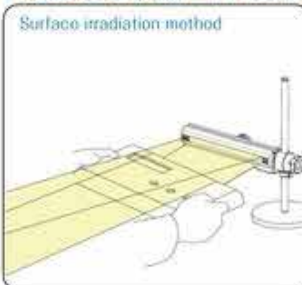
Illuminated by BARLIGHT II



Normal indoor lighting



### Usage examples: Tilt Stand, Double Tilt Stand, BARLIGHT Free-arm and BARLIGHT Grip are optional.

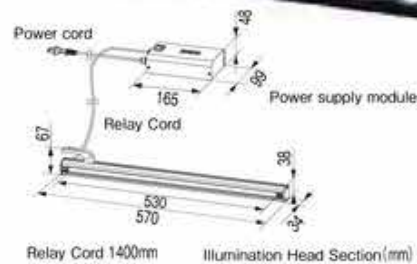




# BARLIGHT 530



	BARLIGHT 530	BARLIGHT 530F	BARLIGHT 530FL
Light source	High luminance white LED 21 bulbs		
Rated input voltage	AC100V 50/60Hz		
Power cable length (unit: mm)	Power cord: 1800		
Power consumption	24W		
Specification temperature range	0°C~40°C		
Dustproof and waterproof protection grade	IP20	IP40	
Illumination intensity ※1	150mm:19000lx,200mm:15000lx,300mm:10300lx,400mm:7100lx		
Irradiation spread angle	6°		
Weight of the illumination head unit only	800g		
Weight	1.6kg	3.4 kg	13.5kg
※1 The irradiation data is the value measured at the center of irradiation head in a darkroom. It is the data of one of mass-produced products and is not an assured data.			
※2 Cannot change angle of the illumination range.			



Product name	(Set contents)
BARLIGHT 530	(Main unit only)
BARLIGHT 530F	(Set product with BARLIGHT 530 Free-Arm)
BARLIGHT 530FL	(Free-Arm and Caster Stand Set)

## OPTION (BARLIGHT 530)

### BARLIGHT 530 Free-Arm, example of attached clamp stand.



#### Free-Arm

The Free-Arm Clamp Stand is a movable arm-type stand that can be attached to the BARLIGHT-530 using 4 decorative screws.

Decorative screws(4pcs)  
Clampable range 15 ~ 60mm

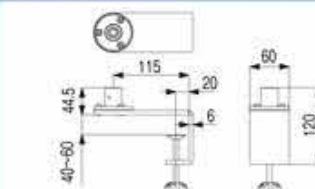
(Warning)  
This product cannot pass the relay cord of the BARLIGHT-530 through its arm.

#### BARLIGHT 530-F

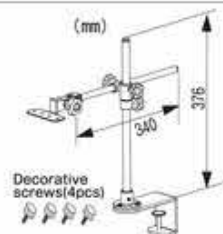


(mm)

#### Clamp Stand



(mm)



This clamp stand can be attached to the BARLIGHT-530 using 4 decorative screws, and be used to affix the product to a surface area such as a desk.

Clampable range 4 ~ 60mm

#### Free-Arm Caster Stand Set



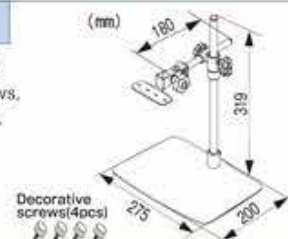
The Free-Arm Caster Stand is a movable arm-type stand that can be attached to the BARLIGHT-530 using 4 decorative screws.

(Warning)  
This product cannot pass the relay cord of the BARLIGHT-530 through its arm.

#### Table Stand

This table stand can be attached to the BARLIGHT-530 using 4 decorative screws, for use after placing it up on a desk, etc.

(Warning)  
Moving and tilting the illumination head beyond the specified range of motion may result in the product tipping over and damaging the object being observed.



# The list of interchangeable lens system

## Magnification lineup of Round Series interchangeable lens system

\*The photo is composite

Area magnification (approximate)	2X (φ130)	3X (φ130)	4X (φ130)	6X (φ105)
Images of models				
Lens diameter (lens composition)	φ 130 (single piece lens)	φ 130 (single piece lens)	φ 130 (doublet lens)	φ 105 (doublet lens)
Images of models				

Area magnification (approximate)	8X (φ90)	10X (φ90)	12X (φ90)	15X (φ90)
Images of models				
Lens diameter (lens composition)	φ 90 (quadruplet lens)	φ 90 (quadruplet lens)	φ 90 (3 groups, quintuple lens) with polarizing filter as standard	φ 90 (3 groups, sextuplet lens) with polarizing filter as standard
Images of models				

Magnification of our product is expressed in term of area magnification. This is comparison of area magnification and line magnification, expressing in term of line magnification.

Area magnification	Line magnification
2x	1.4x
3x	1.7x
4x	2x
6x	2.4x
8x	2.8x
10x	3.1x
12x	3.4x
15x	3.8x

Lens (area magnification)	Eye point (mm)	Lens diameter (mm)	Working distance (mm)	View (mm)	Weight (g)	Optional multi-coated lens
2x	150	φ130	160	φ170	400	○
3x	150	φ130	130	φ140	500	○
4x	150	φ130	110	φ120	700	○
6x	100	φ105	82	φ70	600	○
8x	105	φ90	54	φ40	1300	○
10x	80	φ90	43	φ40	1300	○
12x	80	φ90	35	φ40	1400	×
15x	65	φ90	30	φ30	1400	×

## Magnification lineup of WIDE Series interchangeable lens

Area magnification (approximate)	wide 2X (φ150)	wide 3X (φ150)	wide 4X (φ150)	Lens (area magnification)	Eye point (mm)	Lens diameter (mm)	Working distance (mm)	View (mm)	Weight (g)	Optional multi-coated lens
Image of models				WIDE -2x	150	φ150	150	φ200	700	○
Lens diameter (lens composition)	φ 150 (single piece lens)	φ 150 (single piece lens)	φ 150 (double lens)	WIDE -3x	150	φ150	120	φ180	720	○
				WIDE -4x	150	φ150	100	φ160	1150	○

Lens Configuration...Number of lenses set for 1 replacement lens.

Magnification Sample...Sample of view through lens. Does not guarantee magnification.

# AR-Coated lens

## Proposal of fatigue reduction

You can reduce workers' "eye fatigue" and "decrease in work efficiency" by mounting the AR-coated interchangeable lens onto an Otsuka Optics Illuminated magnifier which you are using currently.

\*The photo is composite

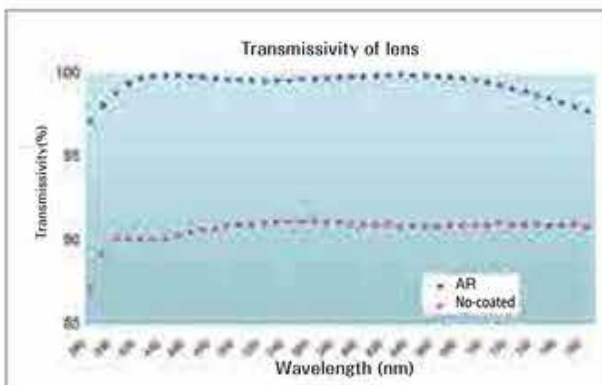
Area magnification (approximate)	2X (φ130)	3X (φ130)	4X (φ130)	6X (φ105)	8X (φ90)	10X (φ90)
Images of models						
Lens diameter (lens composition)	φ130 (single piece lens)	φ130 (single piece lens)	φ130 (doublet lens)	φ105 (doublet lens)	φ90 (quadruplet lens)	φ90 (quadruplet lens)
Images of models						

Area magnification (approximate)	2X (φ150)	3X (φ150)	4X (φ150)
Image of models			
Lens diameter (lens composition)	φ150 (single piece lens)	φ150 (single piece lens)	φ150 (double lens)



## RECTA-SYSTEM

Lens diameter (lens composition)	2X (PUL AR)	3.5X (PUL AR)	5X (PUL AR)
Image of models			
Lens diameter (lens composition)	144x108	144x108	144x108



- Glare of the sunlight or ceiling illumination on lens surfaces, which often occurs on the conventional illuminated magnifier, is prevented and the workers can concentrate on inspection work and other tasks.
- Transmittance ratio is improved about 10% compared to conventional lenses (our products comparison), and it is possible to make clear inspection.
- It is possible to improve workability and feel of use by replacing the conventional lens of an illuminated loupe in use with the AR-coated lens.

※(Remarks)

The cause of fatigue while using illuminated loupe is not only originated by lens, but there are many other factors exist. There are cases that fatigue reducing effect by mounting the AR-coated lens may not be observed depending on intensity of illumination, work environment, inspection method or inspection accuracy.

Lens Configuration...Number of lenses set for 1 replacement lens.

Magnification Sample...Sample of view through lens. Does not guarantee magnification.

# OPTION / LOUPE

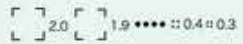
## Big-diameter Glass Scale

This is precision rulers with divisions and various gauges drawn on the glass surface. Shapes of objects can be directly measured by contacting the magnifying glass, etc. to the objects. In the  $\phi 76\text{mm}$  of the field of view, six kinds of scales are drawn. The porphory is covered with knurled rubber to prevent the hand from slipping during measurement.

Radius gauge (1.5 to 0.2mm)



Square gauge (2.0 to 0.3mm)



Taper gauge (0.5 to 0.1mm)

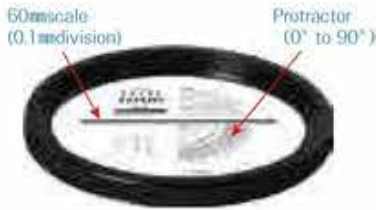
Pitch gauge (0.5 to 1.75mm)



Taper gauge (0.5 to 0.1mm)



Glass Scale GS-A	
Diameter,thickness	$\phi 90\text{mm}, 8\text{mm}$
Effective diameter	$\phi 74\text{mm}$
Material of scale	Optical glass
Scale processing	Cr vapor deposition
Weight	50g
Precision/accuracy	$\pm 0.005\text{mm}$



Illuminated magnifiers, microscopes or stand-type loupes etc. are suitable as magnifying devices and 10X magnification or higher is recommended when an illuminated magnifier is used. When measuring a thickworkpiece such as a screw, die-cast part, pressed part, etc., fix the lens position and hold the workpiece with the hand.

## Polarizing filter

A polarizing filter has a characteristic of transmitting a component of light wave in only one direction out of random directions.

This eliminates unnecessary light reflected on the surfaces of the observed objects, thus inspection efficiency is improved and the operator is less fatigued. Since this filter has light reduction effect as well, it can reduce the light intensity of the lighting.

- $\phi 130$  Polarizing filter (for 2X to 6X)
- $\phi 90$  Polarizing filter (for 8X to 15X)

- Polarizing filter holder (for 8X to 15X)

The standard polarizing filter (for 8X, 10X, 12X, and 15X) is simply placed on a lens for the normal usage and may fall unexpectedly if the lens is tilted largely. Use of this polarizing filter holder will hold the filter firmly and prevent accidents.



## Wide View Stand loupe

### Feature

Applicable to from outside inspection to magnification observation, and precision work. An ultra wide lens of 1.8X with high light transmittance and small lenses of 4X and 7X are combined. The hard-coated plastic lenses are not scratched easily and can be folded to the A5 size for easy storage and transportation.

- Wide View Stand Loupe
- Magnification: Rectangular lenses: 1.8X, segment lens: 4X, 7X
- Weight: 1.9kg



## POWER UP LENS(PUL) ROUND SERIES,OSL SERIES,WIDE SERIES

ONLY AVAILABLE for 2X



diameter :  $\phi 100$

- ROUND SERIES 2X+ PUL=5X



■ Lens size : 50x100mm

- OSL 2X + OSL-PUL=4X



■ Lens size : 100x180mm

- WIDE 2X + WIDE-PUL=4X

## Type-B Conductive Base Mat



This is the Type-B Conductive Base Mat. Use it individually to prevent stains/dirt to tables and provide protection to the work, or use it along with the ground wire set for combating static electricity.

\*All photos are attached images. Illuminated magnifying lens is not be included.

## Ground Wire Set



Use this with the Type-B Conductive Base Mat by directly connecting to the ground to turn a table stand into a temporary static-free work space.

Ground Resistance (of Mat)

## Side Extension Stick



Attach this product to the side stick of the magnifying lens, then after attaching to a crank bulb, you will be able to widen and increase the range of movement of the side stick.

- Shaft Diameter:  $\varnothing$ 13mm
- Length of Shaft: 97mm



Attached Image

## VITA-LITE

Full-spectrum fluorescent lamp  
Circular fluorescent lamp

VITA-LITE, the third lamp lights up objects in very natural colors and does not fatigue the user's eyes easily. We recommend this lamp especially when using a high-power magnifier.



- Ra91
- Made in China
- 22W

## Off-Set Clamp



In situations where a wall is close by, or a clamp is too bulky, you can attach the free-arm (F-type, CF-type) on a slightly offset position.

## Flange Base



By attaching to a work desk using screws, F/CF/ST-type models can be used without a clamp stand.

## Type-FL Caster Base



Possible to move within range of the power cord.

# Features of Products

## Features of Products

- |  |  |
|--|--|
| <p><b>B</b> <b>Table stand type</b><br/>A product placed and used on a desk, etc...</p> <p><b>CL</b> <b>Light box type</b><br/>This product has two illuminating functions of epi-illumination and trans-illumination.</p> <p><b>D</b> <b>Fixed, desk holder type</b><br/>A product having a box, the bottom of which is fixed with screws when used.</p> <p><b>MS</b> <b>Magnet stand type</b><br/>A product attached onto a metal surface by magnetic force of magnets when used.</p> <p><b>ST</b> <b>Long bar type</b><br/>A product consisting of a cross bar, a pillar, and a desk clamp.</p> | <p><b>F</b> <b>Free arm type</b><br/>It has an arm with high degree of freedom, and is clamped to a desk for use.</p> <p><b>CF</b> <b>Compact free-arm type</b><br/>A product having a shorter arm than model F, and handled easier.</p> <p><b>FD</b> <b>Free arm and fixed, desk holder type</b><br/>Desk holder which is fixed with screws and free arm.</p> <p><b>FL</b> <b>Free arm type</b><br/>A product made by combining a free-arm type illuminated magnifier and a stand with casters.</p> |
|--|--|

## LINE UP

### LED



SKKL/ENVL Series

LEK/LEKs Series

LSK/LSKs Series

O-Light III-L

Otsuka Illuminated Magnifiers can use LEDs or fluorescent tubes as light sources.  
Above models adopt LED illuminations which have advantages of "long service life" and "lower power consumption".  
There are "circular fluorescent lamp" type and "integrated lamp cover" type in LED illuminations.

### Fluorescent Light



O-LIGHT F

OSL Series

WIDE Series

O-Light III

Above products adopt fluorescent lamps as light sources, and the use can replace them by themselves.

The adopted fluorescent tubes are as follows.

O-LIGHT F, Round type 20W(FCL20N/18), OSL Series/Straight type 6W(FL6N),  
WIDE Series/Straight type 8W(FL8N), O-LIGHT III/Compact type 27W(FPL27AX).

## Features of Products

Our products are made for uses outside Japan.  
Please note the following when using outside Japan.

### Matters that needs to be checked

Please check the input voltage, frequency, and the type of AC plug.

Please look at the product specifications in our catalog.

Products with a specification: "Input Voltage: 100 - 240 V 50/60 Hz)" cannot be changed to the specification for uses outside Japan.

Products with a specification: "Input Voltage: Only 100 - 240 V 50/60 Hz)" cannot be changed to the specification for uses outside Japan.

Please contact us for "products without any input voltage notation."

### Notes for When Placing Orders

Please specify the "type of AC plug" of the country in which you will be using the product.

Please refer to the following table if you do not know the type of AC plug.



Type A



Type A with Earth



Type SE with Earth



Type BF with Earth



## Contact

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### **OTSUKA OPTICS CO.,LTD.**

1-1-4, Koyama, Shinagawa-ku, Tokyo  
zip 142-0062

TEL : +81-33491-4126 FAX : +81-33491-4120

<https://www.otsuka-op.com>



**Attention**

- ※The LED is a little different from the fluorescent lamp in color, intensity, and light distribution.
- ※Magnifications are all expressed by areal magnifications.
- ※Specifications and prices are subject to change without prior notice.
- ※Color of the products may be slightly different from the print.