

# Binocular Indirect Ophthalmoscope

## *IO-α LED*

### Power Source

Battery Pack  
**IO-BP3A**



Battery : Rechargeable lithium-ion batteries (3.7V)  
Charging Time : Approx. 2 hours  
Continuous Illumination Time :  
Approx. 5 hours (at maximum light intensity)  
Dimensions :  
Approx. 90 x 45 x 30 mm (without protrusion)  
Weight : 90 g

Transformer  
**LPS-250**



Power Source  
AC 100-240V 50/60Hz 6VA  
  
Dimensions :  
160 x 100 x 99 mm  
Weight : 520 g

### Set Contents

#### Transformer type

Item	SET2	SET3	SET4
IO-α LED Main Unit	1	1	1
Power Supply Unit LPS-250	1	1	1
Power Cable (2m)	1	1	1
Curled Code (2.2m)	1	1	1
Wall Mount Hook Wood Screw: x 3 Thumbscrew: x 1	1	1	1
Hanger	1	1	1
Spare Fuse	2	2	2
Wiring Ring	1	1	1
Teaching Mirror	-	-	1
Detachment Chart	-	-	1
Carrying Case	-	1	1

#### Battery-powered type

Item	SET2	SET3	SET4
IO-α LED Main Unit	1	1	1
IO-BP3A	1	1	1
AC Adapter set	1	1	1
USB Cable (Type-C)	1	1	1
Extension Cord (1 m)	1	1	1
Belt Hook	1	1	1
Wiring Ring	1	1	1
Teaching Mirror	-	-	1
Detachment Chart	-	-	1
Carrying Case	-	1	1

### Options

Aspherical Viewing Lens 20D    Magnification:3.1x



IO Stand



IO-αLED on Stand





# NEITZ pursues Comfort and Flexibility. Everything is for Your Best Performance.

Neitz LED light source reproduces clean illumination in halogen bulb colour and eliminates the filament shadow.

LED light source provides steady illumination for 50,000 hours, free from exchange the light bulb.

The combination of the LED and the powerful re-chargeable battery allows 10 hours continuous lighting (at middle intensity).

## Specifications

Pupillary Distance : 54mm to 74mm  
Illumination Area :  $\Phi 19\text{mm}$ ,  $\Phi 50\text{mm}$ ,  $\Phi 80\text{mm}$  (at the distance of 500mm)  
Filters : UV, Blue, Red-Free  
Light Source : 3W White LED  
Dimensions : 164 x 111.5 x 58 mm (excluding headband)  
Weight : 480g



IO-α LED

The highly sensitive FHD camera system equipped with the latest CMOS image sensor provides clear and high-definition images while reducing image degradation.

Suitable for observation of pediatric fundus with retinal diseases such as a retinopathy of prematurity.

The original Neitz capture software maximises the usability in displaying and saving the fundus images.

## Specifications

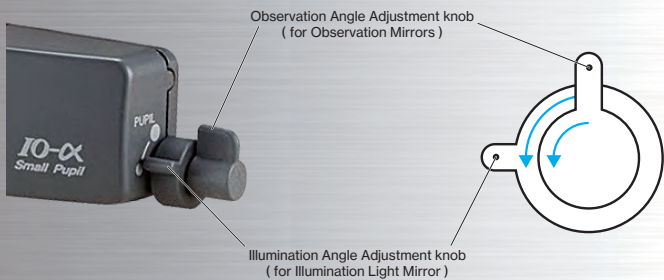
Pupillary Distance : 54mm to 74mm  
Illumination Area :  $\Phi 19\text{mm}$ ,  $\Phi 50\text{mm}$ ,  $\Phi 80\text{mm}$  (at the distance of 500mm)  
Filters : UV, Blue, Red-Free  
Light Source : 3W White LED  
Dimensions : Approx. 164 x 116.5 x 102.5mm (excluding headband)  
Weight : 730g



IO-α LED CAMERA

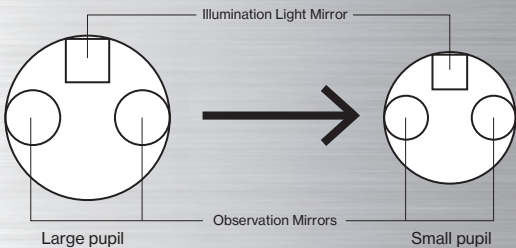
## OPTICS SYSTEM

The Illumination Light Mirror and Observation Mirrors are adjustable respectively with a single hand.



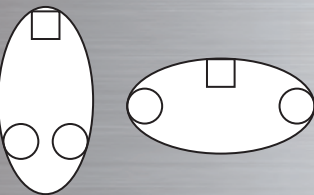
### ■ Small pupil

Clear stereoscopic fundus image can be easily obtained through small pupil with the mirrors.

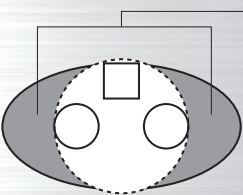


### ■ Freedom in choice of the approach angle to the pupil.

The system allows to adjust the position of the mirrors into vertical or horizontal positions corresponding to the patient pupil. It enables the operator to observe the periphery of the patient fundus from any angle.

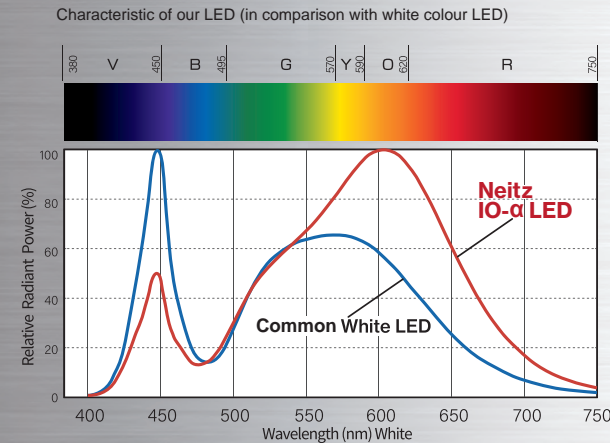


The optical system of Neitz IO-α can position the mirrors into either vertical or horizontal oblong in corresponding to available observation angle for the operator at examination.



The area, the periphery of fundus, is difficult to be observed in some approach angle to the pupil unless the optical system can position the mirrors like Neitz IO-α.

## HALOGEN BULB COLOUR LED



The colour temperature of the LED of Neitz IO-α LED is 3200°K, which is same colour temperature to the halogen bulb used in the typical binocular indirect ophthalmoscope.

The colours observed in ophthalmoscopy are red of blood vessel, orange of retina and yellow of optic disc. Differently from common white colour LED used in the binocular indirect ophthalmoscopes of other manufacturers, our halogen bulb colour LED reproduces these colours with high colour rendering properties as shown in the chart on the left. It supports operator to obtain the maximized information from the fundus observation for more precise diagnosis.

It enables to observe fundus under the same condition of illumination compatible to the halogen bulb illumination of familiar.