NEITZ

Made by Neitz for Your Medical Field

NEW MODEL

High Color-rendering LED

Boost Mode for More Brightness

NEITZ LED DIRECT OPHTHALMOSCOPE

BXα13LED

Product Specifications

Specifications

Product name	LED Direct Ophthalmoscope BXα13LED
Generic name	Direct ophthalmoscioe
Illumination Source	High color-rendering incandescent LED
Correction Range	-36 D to +35 D (in increments of 1 D)
Filters (Illumination system)	Polarizing filter, Red-free filter
Observation Polarizing Filter	ON/OFF
Illumination Dial	Normal aperture, Small aperture, Slit, Concentric scale, Cobalt blue filter
Batteries	C-size alkaline batteries (2 pcs.)
Dimensions (excluding protrusions) and weight	45 mm x 34 mm × 223 mm Approximately 290 g (including batteries)

Classification

Degree of protection against electric shock	Internally powered ME equipment
Applied parts	No applied parts
Degree of protection against harmful ingress of water or particulate matter	IPX0
Method of sterilization	Do not sterilize
Suitability for use in an oxygen rich environment	Do not use in oxygen rich environments
Mode of operation	Continuous operation

Applied Standards

Electric Safety	IEC 60601-1:2020
Electromagnetic Disturbances	IEC 60601-1-2:2020
Usability engineering	IEC 62366-1:2020
Biological evaluation	ISO 10993-1:2018
Ophthalmic Instruments	ISO 15004-1:2020
	ISO 15004-2:2007
	ISO 10942:2006

Environmental Conditions

	Use	Storage	Transport
Temperature	+10 °C to +35 °C (50 °F to 90 °F)	-10 °C to +55 °C (14 °F to 131 °F)	-10 °C to +55 °C (14 °F to 131 °F)
Relative Humidity (no condensation	30 % to 90 %	10 % to 95 %	10 % to 95 %
Atmospheric Pressure	800 hPa to 1060 hPa	500 hPa to 1060 hPa	500 hPa to 1060 hPa

Accessory

Carrying Case

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Distributor

* As part of our policy of continued product improvement, we reserve the right to alter and/or amend specifications at any time without prior notice.
* The colors in the catalog may be slightly different from those of the actual products.

The Features of LED Direct Ophthalmoscope

500lx Brighter Illumination Field

Three to five times brighter than our halogen bulb models.

SMOOTH Smooth Light Control

Smooth stepless light control from the minimum to the maximum.
Reduces the burden of the patient caused by photophobia.
Clear fundus observation.

BOOST Boost Mode for More Brightness

Switchable between normal mode and much brighter boost mode.

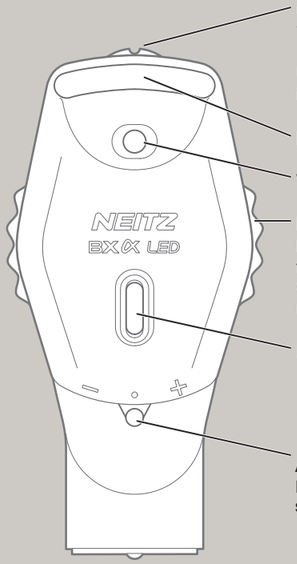
Equipped with Cobalt Blue Filter

For fluorescein examination

Ra:90 High Color-rendering LED

The color reproduction is equal to our halogen bulb ophthalmoscopes..
Ra：More than 90, R9：More than 80
Color temperature：2700K
No need of light bulb replacement. Maintenance-free
LED lifetime: 50,000 hours

Various Functions



Observation Polarizing Filter Disc
The polarizing filter is inserted in the observation system by rotating this disc. Use when the reflected light from the cornea is glaring and hinders your observation.

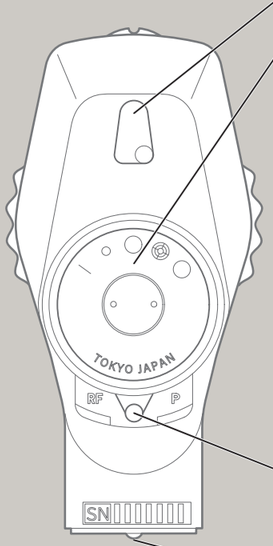
Rubber Stabilizer

Viewing Window

Rekoss Disc
Diopter correction lens to focus on the fundus image.
Correct hyperopia with convex lens and myopia with concave lens.

Diopter Indicator
Indication： －12D to ＋11D
＋ Diopters： ＋12D to ＋35D
－ Diopters： －13D to －36D

Auxiliary Lens Selector
Insert the auxiliary lens by using this selector lever.



Aperture Shutter

Illumination Dial
Cobalt blue ：For fluorescein examination to observe damage on the cornea.
Normal aperture：For typical fundus examinations.
Small aperture： For examination of small pupils. In particular, when examining through constricted pupils such as during examination of the macula
Concentric scale：While observing the patient's fundus, instruct the patient to fixate on the center of the concentric scale.
Slit： Using the slit illumination facilitates recognition of roughness on the surface of the fundus.

Filter Lever
RF: Red-free filter, P: Polarizing filter
To insert the polarizing filer and red-free filter that makes red tissue such as blood vessels appear black and facilitate detection of minute fundal hemorrhages.

LED Light Source (in the ophthalmoscope head)

Basic Functions

Polarizing Filter

It is theoretically and experimentally confirmed that the corneal reflex in the fundus observation is minimized by inserting two polarizing filters with the polarization axes mutually perpendicular into the illumination system and observation system. However, the entire fundus image gets dark, and this is regarded as the drawback of this method. To solve this point, Neitz made the polarizing filter in the observation system rotatable to achieve the best balance between the corneal reflex and the brightness of the fundus image by changing the angle at which two polarization axes cross each other.

Auxiliary Lens

The Auxiliary Lens corrects the diopter from -36D to +35D in increments of 1D. The lens disc rotates endlessly and a large amount of change of the diopter is smooth.

Direct-reading Diopter Indicator

Even when using the Auxiliary Lens for observation of high myopia or high hyperopia, the diopters on the correction lens can be read directly. The Diopter Indicator is illuminated and clearly readable in a dark room.

Illumination Dial

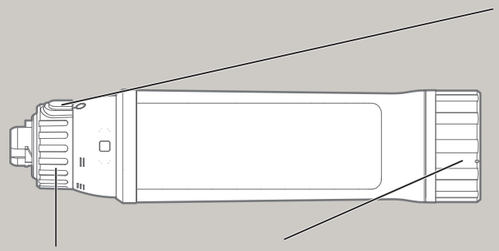
To select the small aperture for observation of macula, slit to recognize the roughness on the surface of the fundus, and the concentric scale. To use the cobalt blue filter for fluorescein examination to observe damage on the cornea, set the filter by turning the dial.

Filters

By moving the Filter Lever, insert the polarizing filter and the red-free filter that makes red tissue such as blood vessels appear black into the illumination system. Both filters can be used with all functions selected via the Illumination Dial.

Aperture Shutter

When ending to use the ophthalmoscope, shut the Aperture Shutter to prevent foreign materials from entering the optical system.



Switch Button
While pressing the Switch Button on the Handle, rotate the Switch Ring to the left, the ophthalmoscope is turned on. The further left the ring is rotated, the brighter the illumination.
The ＝ mark shows the position of the normal brightness.
By turning the ring to the ≡ mark, the brightness rises more, effective for an examination in a bright room and for fluorescein examination with use of the cobalt blue filter. To turn the illumination off, rotate the Switch Ring fully to the right.

Switch Ring

Bottom Cap
Detach it to insert two C-size batteries.