OPH-1800 Direct Ophthalmoscope

Operation Manual



ELI EZER

MINI Ophthalmoscope
User's Guide



Thank you for purchasing the MINI direct ophthalmoscope. Before using the MINI ophthalmoscope, read these instructions carefully and keep them in a safe place for future reference.

Symbols:

Consult User's Guide

Internal electrical power source

Cautions

1、 **Read User's Guide for Cautions and Instructions for use.**
2、 **This product must not be used in the presence of flammable gases.**
3、 **This product should not be immersed in fluids.**
4、 **Please ensure that the control is in the off position when the examination has been completed.**
5、 **Federal law restricts this device to sale or order of a physician.**

1. Purpose and features of the product

1.1 Purpose

MINI ophthalmoscopes described in these instructions for use have been designed for the examination of the eye and its background.

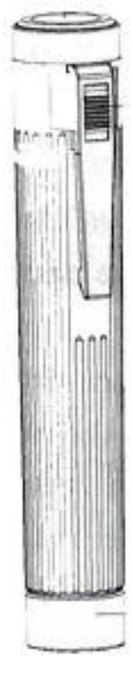
1.2 Features

- MINI Ophthalmoscope is available with two AA alkaline or Ni-MH batteries. The bulb model is P2000 (2.5 V / 1.6 W).
- Diopters (D): 0, ±1, ±2, ±3, ±4, ±6, ±8, ±10, ±15, ±20.
- Aperture wheel:
  a) Red-free filter
  b) Large spot
  c) Small spot
  d) Hemispot
  e) Fixation aperture.

2. Operating Instructions

2.1 Starting and stopping

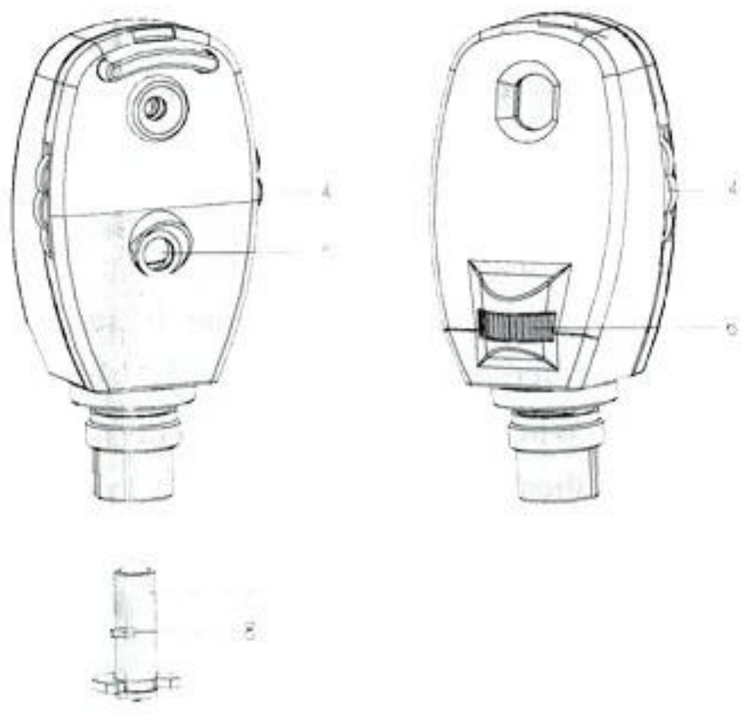
The clip on the handle is equipped with an On/Off slide. When pushing the slide(2) down, the unit is switch on ,when pushing the slide (2) up, the unit is off.



Caution: To minimize bulb housing temperatures, on-time should not exceed 2 minutes with off-time not less than 5 minutes.

Caution: If the handle is too hot or batteries leak, pushing the slide (2) up immediately, turn the instrument off and take the batteries out.

2.2 lens wheel and correcting lenses



The correcting lenses may be adjusted on the lens wheel (4). The following correcting lenses are available: diopters 0 to +20 and 0 to -20. Readings will be displayed on a lit panel (5) .Plus values are displayed in black digits, minus values in read digits.

2.3 Apertures and filters

The following apertures and / or filters may be selected by

the aperture and filter wheel (6):

- Red-free filter: excludes red rays from examination field for easy identification of veins, arteries, and nerve fibers.
- Large spot: for dilated pupil examination of the eye, wider vision can be obtained.
- Small spot: provides easy view of the fundus through an undilated pupil.
- Hemispot (semi-circle) to reduce reflexes in small pupils
- Fixation aperture: The pattern of an open center and thin lines permits easy observation of eccentric fixation without masking the macula.

3. Maintenance

3.1 Replacing the consumables

3.1.1 Replacing the bulb

Remove instrument head from battery handle(1).

The bulb is in the bottom section of the instrument head. Remove bulb, by using your thumb and forefinger or a suitable tool, from instrument head. Insert new bulb (7) with the pin (8) on the bulb fitted in the recess provided on the head of the case. The type of bulb is P2000 .

Caution: Please use the appropriate bulb. When the product is used on battery power for an extended period, the bulb may become hot. Switch off the instrument and allow the bulb to cool before attempting to replace it.

3.1.2 Replacing batteries

Turn the instrument off. Unscrew the bottom cap(3), insert the two new batteries, check to be sure the batteries is in the correct orientation, then close the bottom cap(3).

Caution: Please attach the terminal of the batteries before you throw them。Do not let the metal contacts on the battery touch another metal objects. This may fire or explode.

Caution : The battery should never be placed in municipal waste. Please check local regulations for disposal of batteries.

3.2 Battery use and care

- Please use AA alkaline batteries (IEC standard reference LR6) or AA Ni-HM batteries only.
- When inserting batteries, do not attempt to insert them upside down or backwards.
- If it is not used for a long period, please take the batteries out, otherwise the batteries may leak and damage the product.

3.3 Cleaning Recommendations

Wipe all external surfaces with cloth dampened with a mild detergent and water solution, a mild detergent and water solution, a solution of 70% isopropyl alcohol and water solution, or a solution of 10% Clorox and water. DO NOT immerse. Wring out the cloth to prevent excess moisture from entering the assembly.

Clean instrument windows with a cotton swab dipped in alcohol.

Caution: Excess solution entering the assembly could damage internal components. Use caution to ensure cloth is not saturated with solution.

4. Technical Specifications

Optical Specifications		
Diopter (D)	0, ±1, ±2, ±3, ±4, ±6, ±8, ±10, ±15, ±20	
Aperture	Red-free filter Large spot Small spot Hemispot Fixation aperture	
Electrical Specifications		
Power	Two AA alkaline or Ni-MH batteries	
Type of bulb	2.5 V / 1.6 W	
Electrical Safety	Complying with EN60601-1 EN60601-1-2 Protection: Internal electrical power source Operation mode: Intermittent. 2 minutes "ON" 5 minutes "OFF".	
Environment requirements		
Operation	Environment Temperature	+10 ℃ – +35 ℃
	Relative Humidity	30% – 75%
	Atmospheric Pressure	700 hPa – 1060 hPa
Shipping	Common Conveyance	
Storage	Temperature	-40 ℃ – +55 ℃
	Relative Humidity	10% – 90%
	Air Pressure	500 hPa – 1060 hPa

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