

LOPM* Ophthalmoscope

User's Guide

Liberty[®]



1. Purpose and Features of the Product

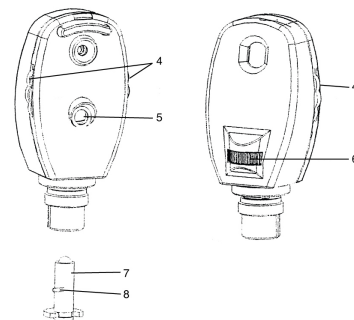
1.1 Purpose

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

1.2 Features

- LOPM* is available with two AA alkaline or Ni-MH batteries. The bulb model is P2000 (2.5V 1.6W).
- 19 lenses from 0D to $\pm 20D$: 0D, $\pm 1D$, $\pm 2D$, $\pm 3D$, $\pm 4D$, $\pm 6D$, $\pm 8D$, $\pm 10D$, $\pm 15D$, $\pm 20D$.
- Aperture wheel: red-free filter, large spot, small spot, hemispace.

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 are displayed in red digits.

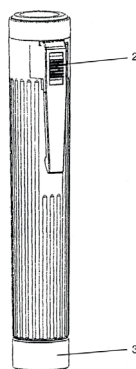


CE The CE mark on this product indicates it has been tested to, and conforms with, the provisions noted within the 93/42/EEC Medical Device Directive.

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 switched on, when pushing the slide (2) up, the unit is off.



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 fibres.
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. Hemispace: (semi-circle) to reduce reflexes in small pupils.

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Thank you for purchasing the Liberty LOPM* Ophthalmoscope. To prevent damage to your ophthalmoscope or injury to yourself or to others, read the following safety precaution in their entirety before using this equipment. Keep these safety instructions where all those who use the product will read them.

Symbols


 Type B


 **Attention:** Read operating manual for cautions and instructions for use


Warnings and Cautions


 **Warning:** This product must not be used in the presence of flammable gases.

 **Warning:** This product should not be immersed in fluids.

 **Warning:** Please ensure that the control is in the off position when the examination has been completed.

 **Warning:** Federal Law restricts this device to sale or order of a physician.

 **Caution:** To minimise bulb housing temperatures, on-time should not exceed 1 minute with off-time not less than 5 minutes.

 **Caution:** If the handle is too hot, or batteries leak, push 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

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 (2.5V 1.6W).

 **Caution:** Please use the appropriate bulb. When the product is used on battery power for an extended period, the bulb may become hot. Before removing bulb, allow the bulb to cool.

3.1.2 Replacing Batteries

Turn the instrument off.

LOPM* = Product Code

Unscrew the bottom cap (3), remove the two old batteries, then insert the two new batteries, check to be sure the batteries are 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 object. This may cause fire or explosion.



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 the ophthalmoscope 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 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.

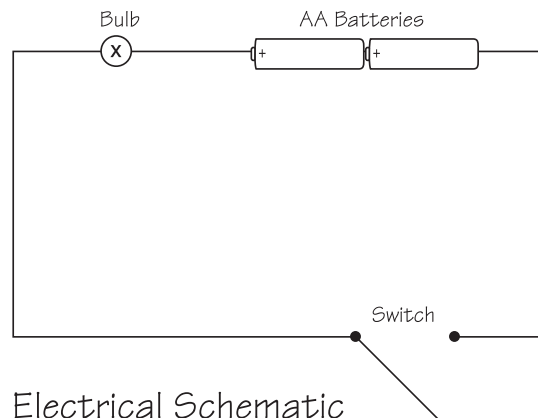
Clean instrument windows with a cotton swab dipped in alcohol.



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	0D, ±1D, ±2D, ±3D, ±4D, ±6D, ±8D, ±10D, ±15D, ±20D	
Aperture	Red-free Filter, Large Spot, Small Spot, Hemispace	
Electrical Specifications		
Rated Voltage	Two AA Alkaline or Ni-MH Batteries	
Type of Bulb	P2000 (2.5V 1.6W)	
Operation Mode	Intermittent, on-time should not exceed 1 minute with off-time not less than 5 minutes	
Electrical Safety Standard	IEC60601-1, IEC60601-1-2	
Environment Requirements		
Use Condition	Environment Temperature	+10°C to +35°C
	Relative Humidity	30% to 75%
	Atmospheric Pressure	700 hPa to 1060 hPa
Shipping & Storage	Environment Temperature	-40°C to +55°C
	Relative Humidity	10% to 90%
	Atmospheric Pressure	500 hPa to 1060 hPa



Electrical Schematic

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