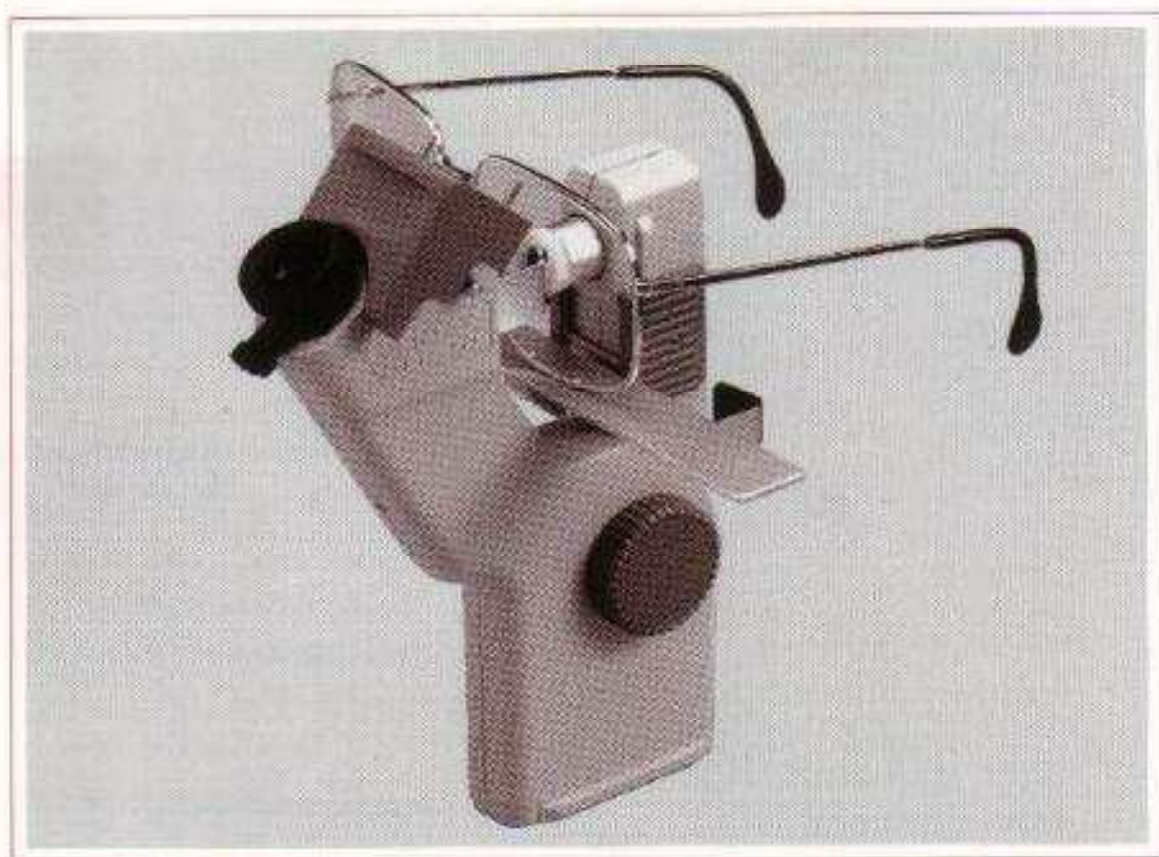


PENTAX

Handy Lens Meter OLH-10

Operation Manual



1. Parts Identification

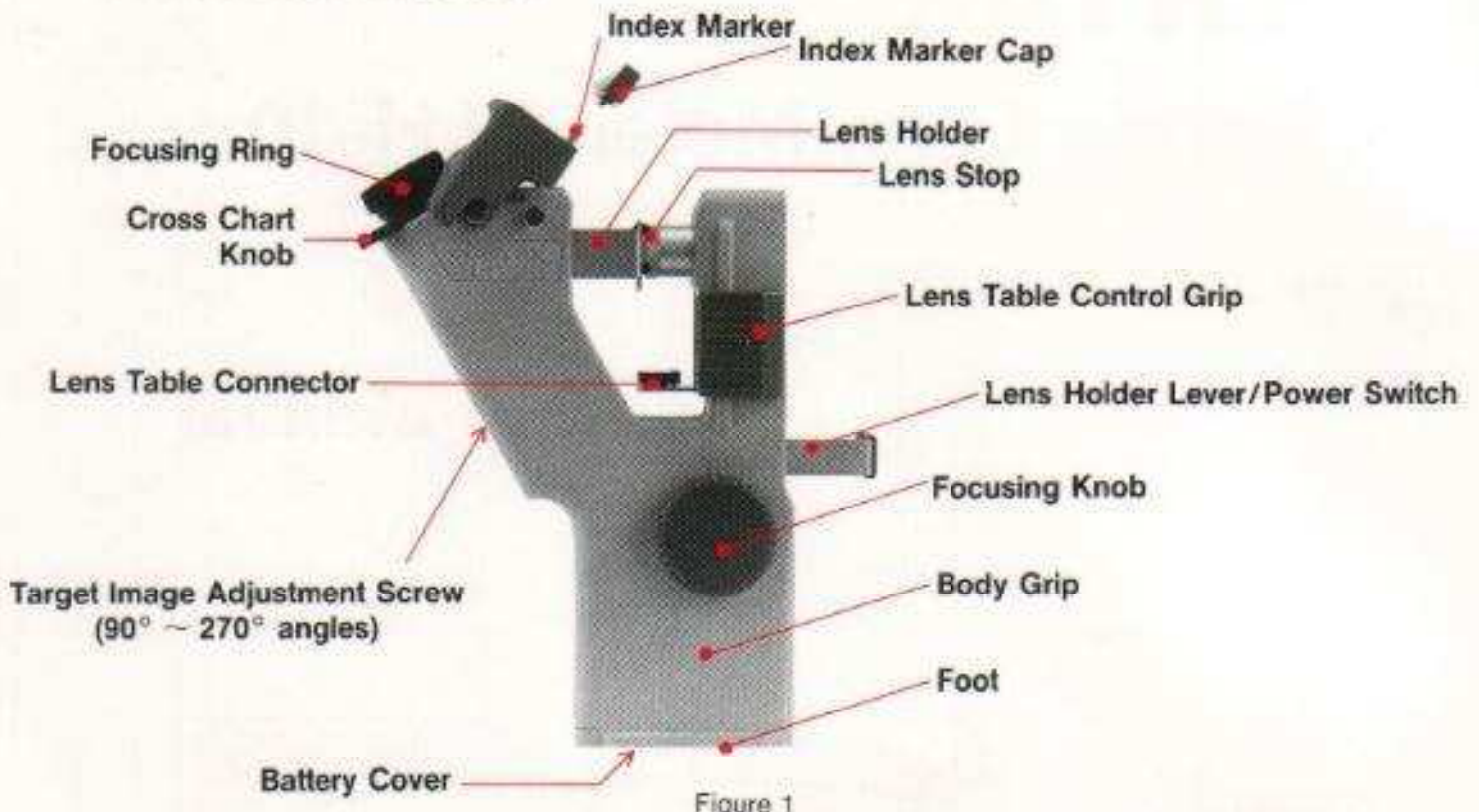


Figure 1

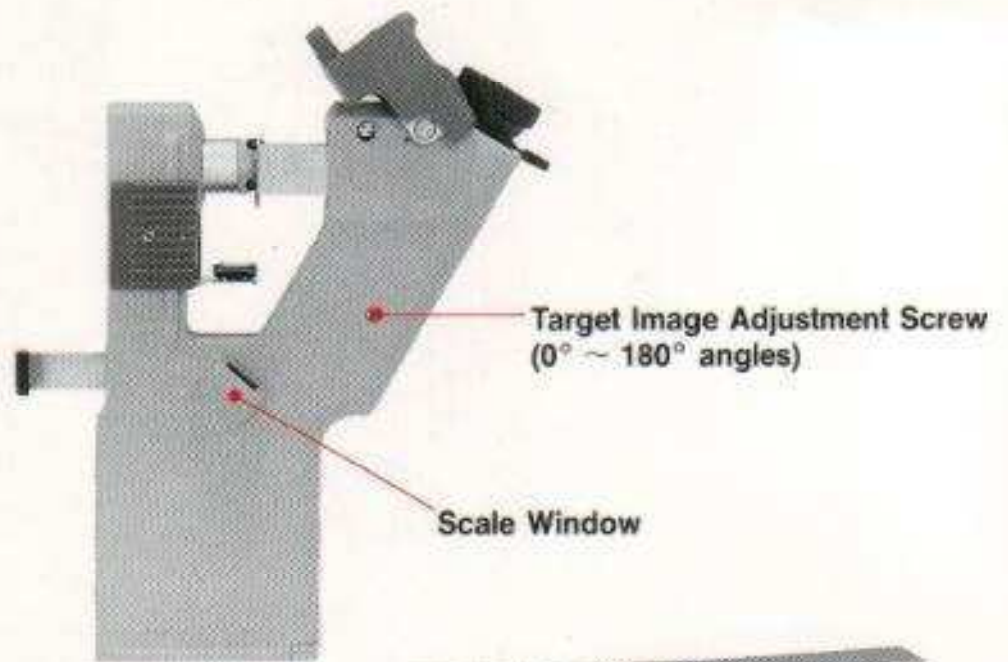


Figure 2



Lens Table Figure 3

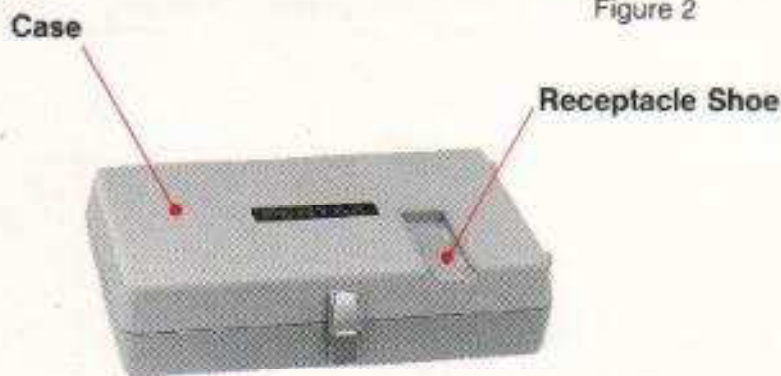


Figure 4



Index Marker Stamper

Figure 5

2. Operation

2-1. Lens Table Setting

Position the lens table onto the lens table connector and fix it firmly by pushing its holes into the projections on the connector (Figure 6). The lens table can be installed from either side of the body.

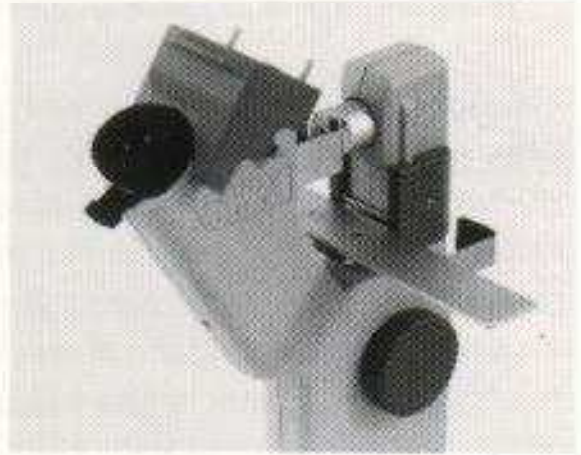


Figure 6

2-2. Diopter Adjustment

As is the case with standard telescope-type lens meters, adjust the focusing by rotating the focusing ring until the scale can be viewed most sharply.

2-3. Target Image Adjustment

Before positioning a lens to be measured, pull the lens holder lever/power switch slightly. If the target image is not centered, adjust it by turning the target image adjustment screw with a Phillips screwdriver until it is positioned at the center of the scale.



Figure 7

2-4. Lens Setting

Position the lens on the lens table so that its concave side faces the lens stop (Figure 7). If the lens is mounted in a eyeglass frame, position the frame so that its bottom rests on the lens table (Figure 8).

2-4-1. Lens Holder Control

When the lens holder lever/power switch is pulled slightly, the lens holder moves. After positioning the lens to be measured, release the lens holder lever so that the lens is firmly fixed. At this time, power is turned on and the OLH-10 is ready to take measurements. In order to reposition or remove the lens, pull the lens holder lever slightly.



Figure 8

2-4-2. Lens Table Adjustment

Using the lens table control grip, move the lens table vertically until it comes in contact with the lens or eyeglass frame to be measured. Cylindrical axis and prismatic power of the lens can be measured at this stage.

2-5. Spherical Lens Measurement

After positioning the lens, rotate the focusing knob until the target image appears most sharply within the image field, and read the scale in the window to obtain the power of the lens. More accurate measurements can be obtained by positioning the target image at the center of the image field. Black scales indicate the "plus" power while orange ones indicate the "minus" power. For example, the measurement in Figure 9 indicates -3.25 dioptry.



Figure 9

2-6. Cylindrical Lens Measurement

After positioning the lens, rotate the focusing knob until the pinhole of the target image, which is extended into an oval shape, appears most sharply in the image field (Figure 10). Read the scale in the scale window to obtain the power of the lens. At the same time, align the cross chart with the oval-shaped pinhole using the cross-chart knob and read the axis from angle scale in the image field. Then, rotate the focusing knob until the pinhole of the target image forms another sharply focused oval at right angle to the first one. Read the scale in the scale window to obtain the power of the lens.



Figure 10

2-7. Prismatic Power Measurement

After positioning the lens, rotate the focusing knob until the target image appears most sharply in the image field (Figure 11). Each concentric circle of the scale indicates one prism diopter while the diameter of a circle formed by the pinhole corresponds to one prism diopter. As a

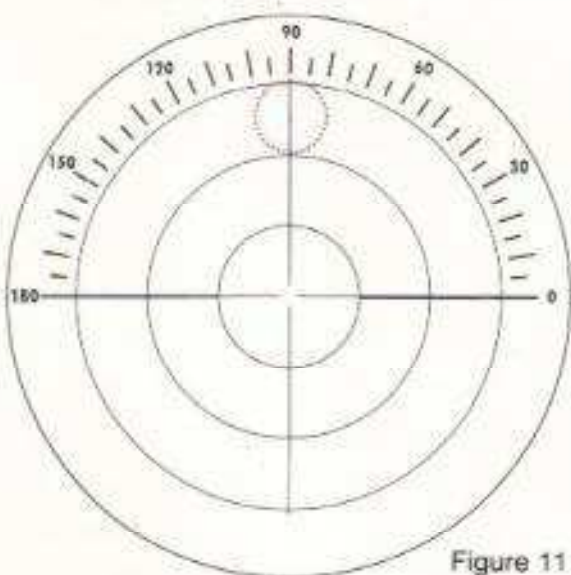


Figure 11

result, accuracy of ± 0.5 prism diopters can be easily measured by using the center dot of the target image. For example, the measurement in Figure 11 indicates $2.5^{\Delta} 90^{\circ}$.

2-8. Cylindrical Lens with Prismatic Power Measurement

The power of this type of lens can be measured by using steps 2-6 and 2-7. For example, the measurement in Figure 12 indicates two prism diopters in 60° angle with the cylindrical axis at 60° .

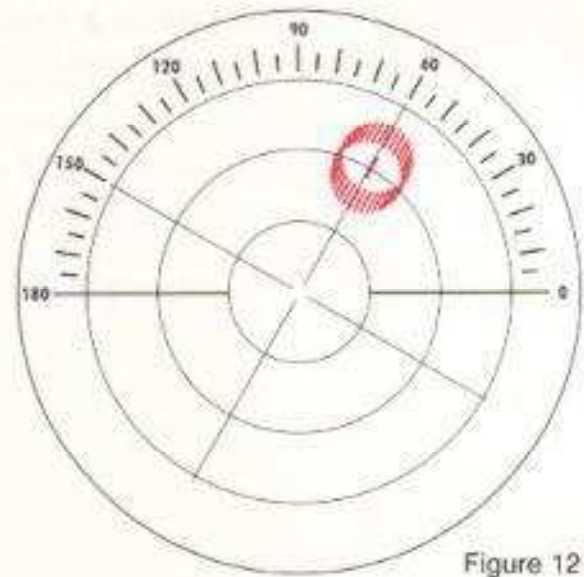


Figure 12

2-9. Contact Lens Measurement

Measurements of contact lenses require the optional contact lens holder. Operation of contact lens measurement is explained in an operation manual of the contact lens holder.

2-10. Bifocal Lens Measurement

After positioning an additional lens element at the lens stop, follow steps 2-2 and 2-4.

2-11. Index Point Marking

2-11-1. Optical Center Marking

Remove the index marker cap by pulling it off while pressing its sides, and apply ink onto three needles of the index marker using an index marker stamp. Then, after positioning the lens, rotate the focusing knob until the target image appears most sharply in the image field and move the target image until it is positioned at the center of the scale in the image field. While pressing the index marker down, push it toward the lens until it comes into contact with the lens surface to mark one dot for the optical center and two dots at both sides of the optical center for the optical axis. When the index marker is released, it returned to its original position. Make sure to put the cap on after use so that the index marker's ink will not get on other parts of the lens.

2-11-2. Pupil Distance Measurement

Focus the target image, position it at the center of the image field, and mark the index points on the lens. Repeat this procedure for the other lens. Pupil distance can be obtained by measuring the distance between two corresponding dots.

2-12. Stand-Type Application

At the bottom of the grip is a foot with a collar. By sliding this part into a slot of the case, the OLH-10 can be used as a stand-type lens meter — a useful feature especially when using on top of the showcase (Figure 13).



Figure 13

3. Precautions

3-1. The OLH-10 uses two “AA”-size batteries as a power source. When the target image appears dark, remove the battery cover at the bottom and replace the batteries with new ones (Figure 14). When it is not to be used for a long period of time, make sure to remove the batteries.

3-2. If the lens stop is loose, it can affect the accuracy of measurements. Make sure to tighten it up before use.

3-3. The OLH-10 is a precision optical instrument. Please handle it with extra care.

3-4. You are advised to keep the OLH-10 in the case when it is not in use.



Figure 14

4. Components

| (Name) | (No.) |
|-------------------------|-------|
| OLH-10 Handy Lens Meter | 1 |
| System Case/Stand | 1 |
| Lens Table | 1 |
| "AA"-Size Batteries | 2 |
| Index Marker Stamper | 1 |

Contact Lens Holder Optional

5. Specifications

○ Vertex Power

| | |
|--------|--|
| Range: | $\pm 15\text{D}$ |
| Step: | 0.25D ($0 \sim \pm 12\text{D}$) |
| | 0.50D (over $\pm 12\text{D}$) |

○ Cylindrical Axis

| | |
|--------|--------------------|
| Range: | $0 \sim 180^\circ$ |
| Step: | 5° |

○ Index Marker Range $-15\text{D} \sim +13\text{D}$ (with PCZ lens)

○ Prismatic Power

| | |
|--------|------------|
| Range: | 4^Δ |
| Step: | 1^Δ |

○ Maximum Lens Diameter 80mm

○ Diopter Adjustment Range $+5\text{D} \sim -7\text{D}$ or over

○ Power Source DC 3V (two 1.5V "AA"-size batteries)

○ Power Consumption 100mW

○ Dimensions 156mm (H) \times 26mm (W) \times 118mm (D)
(excluding projections)

○ Weight 380g (without batteries)



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