

# Levenhuk Monoculars

# NELSON

**levenhuk**  
Zoom&Joy

## EN User Manual

- A Eyepiece
- B Compass
- C Focus/diopter adjustment wheel
- D Objective lens
- E Strap mount



**Caution! Never look directly at the Sun through this device, as this may cause permanent eye damage and even blindness.**

Reliable and sturdy, Levenhuk Nelson marine monoculars produce a perfect flat image and are an ideal choice for people who like to travel, especially on the water, and often find themselves in extreme weather situations and harsh conditions. The rugged shell protects the intricate optical system inside from any sudden impact or moisture, and withstands poor weather conditions, rain and sea waves. Features:

### Features:

- Compact and lightweight
- Fully multi-coated optics made of BaK-4 glass
- Waterproof shell (IPX7)
- Quick and precise diopter adjustment
- Comfortable twist-up eyecup
- Built-in compass for easy orienting
- Rangefinder scale for convenient measuring of the observed object's size or distance to the object

**The kit includes:** monocular, objective lens cap, strap, pouch, optics cleaning wipe, user manual and warranty.

### Focusing and diopter adjustment

Follow this procedure to adjust focus and diopter setting:

- Set the focus/diopter adjustment wheel to its original position (the white mark on the wheel should be opposite the value "0").
- Look through your monocular on an object located at a distance of about 100m from you.
- Set the sharpness of the image by further turning the focus setting to the right or left.

From time to time, you will have to refocus the lens, so remember the setup process for future use.

### Using eyecup

We recommend setting the eyepiece in the lowest position for observations while wearing eyeglasses. Turn the eyecup upward in a spiral (for upper position); turn the eyecup downward in a spiral (for lower position).

Do not apply excessive pressure as this may damage the eyecup.

### Using the compass

Your monocular is equipped with a directional compass. If you look into the eyepiece, you will see a scale in degrees (350...360...) at the lower edge of your field of view. The directional compass show orientations in terms of angles, where the North is represented as 360°, East as 90°, South as 180° and West as 270°.

Having the object centered with the rangefinder scale in the field of view, read the graduation. The orientation of the object can be identified from the reading.

**Note:** The north indicated the directional compass is "magnetic north", which is different from "true north". The true north is the same no matter where you are located around the world. The magnetic north varies on your location.

By using the monocular, together with a map and an angle meter, you will then be able to precisely find your location.

Example: On a boat sailing, the arrow shows the direction your boat is heading for (fig. 1).

In Fig. 2, by reading the compass in the monocular, you read 190° from the boat to the buoy. (The counter-directional angle,  $190^\circ - 180^\circ = 10^\circ$ , from the buoy to the boat.) To locate your position precisely, you need to have a second reference. In Fig. 3, by using the lighthouse as the second reference, the direction from the lighthouse to the boat is 120° ( $300^\circ - 180^\circ = 120^\circ$ ) and the buoy (10°).

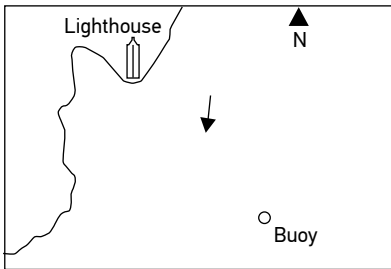


Fig. 1

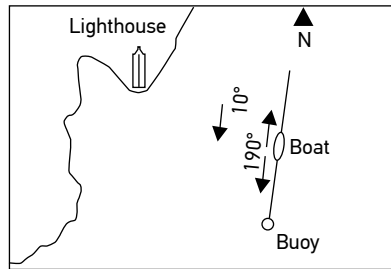


Fig. 2

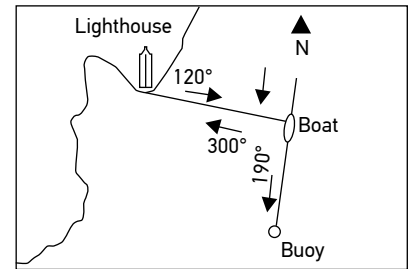


Fig. 3

### Reading the rangefinder scale

To accurately use the rangefinder scale, you will need to know either the size or distance of the object.

For monoculars Nelson, you can use formulas to calculate the distance to the object (when you know its size) or the object's size (when you know the distance).

When you know the object's size (in centimeters), calculate the distance to the object (in meters):

$$\text{Distance} = \frac{(100 \times \text{size})}{\text{rangefinder scale reading}}$$

Example: Object size (you know) is 81cm, rangefinder scale reading is 2.4 units. Calculate the distance to the object:

$$\frac{100 \times 81\text{cm}}{2.4} = 3375\text{m}$$

When you know the object's size (in centimeters), calculate the distance to the object (in meters):

$$\text{Size} = \frac{\text{distance} \times \text{rangefinder scale reading}}{100}$$

Example: Distance (you know) is 3000m rangefinder scale reading is 1.7 units. Calculate the object height:

$$\frac{3000\text{m} \times 1.7}{100} = 51\text{cm}$$

## Specifications

	<b>Nelson 7×35</b>	<b>Nelson 8×42</b>
Optics material	BaK-4	
Optics coating	fully multi-coated	
Eyepieces	2 elements in 1 group	
Objectives	3 elements in 2 groups	
Magnification	7x	8x
Objective lens diameter (aperture)	35mm 1.38in	42mm 1.65in
Compass and rangefinder	built-in	
Real field of view	7.5°	7°
Field of view	130m/1000m 427ft/1000yds	120m/1000m 394ft/1000yds
Relative brightness	25	27.56
Twilight factor	15.65	18.33
Exit pupil diameter	5mm 0.2in	5.25mm 0.21in
Eye relief	23mm 0.9in	
Close focus	3m 10ft	
Diopter adjustment	±4D	
Body	plastic, sealed, nitrogen-filled	
Waterproof class	IPX7, protection against temporary immersion in water	
Eyecups	twist-up	
Operating temperature range	-20...+55 °C -4...+131 °F	

The manufacturer reserves the right to make changes to the product range and specifications without prior notice.

## Care and maintenance

- **Never, under any circumstance, look directly at the Sun, another bright source of light or at a laser through this device, as this may cause PERMANENT RETINAL DAMAGE and may lead to BLINDNESS.**
- Take necessary precautions when using the device with children or others who have not read or who do not fully understand these instructions.
- Do not try to take the device apart on your own. For repairs of any kind, please contact your local specialized service center.
- Do not touch the optical surfaces with your fingers. You can use a soft napkin or a cleaning wipe, dipped in ether or absolute alcohol, to clean lenses. We recommend using special optics cleaning fluids from Levenhuk. Do not use any corrosive or acetone-based fluids to clean the optics.
- Abrasive particles, such as sand, should not be wiped off lenses, but instead blown off or brushed away with a soft brush.
- Do not apply excessive pressure when adjusting focus.
- Do not submerge.
- Protect the device from sudden impacts and excessive mechanical force.
- Store the device in a dry, cool place away from hazardous acids and other chemicals, away from heaters, open fire and other sources of high temperatures. Do not use the device for lengthy periods of time, or leave it unattended in direct sunlight. Always store the device in a special case.
- We recommend keeping the silicate gel pack, when included in the kit.
- During long storage, a thin white film may appear on the rubber armor. You can wipe it clean with a clean napkin.

## Levenhuk International Lifetime Warranty

All Levenhuk telescopes, microscopes, binoculars and other optical products, except for accessories, carry a lifetime warranty against defects in materials and workmanship. **Lifetime warranty** is a guarantee on the lifetime of the product on the market. All Levenhuk accessories are warranted to be free of defects in materials and workmanship for **six months** from date of retail purchase. Levenhuk will repair or replace such product or part thereof which, upon inspection by Levenhuk, is found to be defective in materials or workmanship. As a condition to the obligation of Levenhuk to repair or replace such product, the product must be returned to Levenhuk together with proof of purchase satisfactory to Levenhuk.

This warranty does not cover consumable parts, such as bulbs (electrical, LED, halogen, energy-saving and other types of lamps), batteries (rechargeable and non-rechargeable), electrical consumables etc.

For further details, please visit our web site: [www.levenhuk.com/warranty](http://www.levenhuk.com/warranty)

If warranty problems arise, or if you need assistance in using your product, contact the local Levenhuk branch.