



The Basics about binoculars

Binoculars are classified with two numbers: 8x32, 10x40, etc. The first refers to the magnification—how many times closer an object appears. For most of us, seven or eight power is perfect; serious naturalists may want ten. The second number is the diameter (in millimeters) of the front, or objective, lens. The bigger the lens, the wider their field of view—and the more the binos weigh.

What size lenses do you need? Compact binoculars have **objective lenses** in the 18-to-25-millimeter range. Midsize binoculars are 30 to 35 millimeters, great for all-around use. Full-size binos have 40-to-50- millimeter lenses, for the brightest views.

The **diopter control** corrects any vision difference between your eyes. Look at an object, close your right eye, and focus the glasses normally. Then repeat for your right eye, using the diopter control.

To maximize light transmission, the best binoculars have coatings on both surfaces of all their lenses. Such glasses are "fully multicoated". Better models are also sealed against rain, and the best are nitrogen-filled to eliminate internal fogging. Check the specs for "phase-corrected prisms"—they have a coating to enhance contrast and color accuracy.





Waterproof/Fogproof

Some binoculars are O-ring sealed and nitrogen-purged for total waterproof and fogproof protection. These models can withstand complete immersion in water and stay dry inside. The interior optical surfaces won't fog due to rapid temperature change or humidity.

Magnification (Power)

Binoculars are often referred to by two numbers separated by an "x". For example: 8x32. The first number is the power or magnification of the binocular. With an 8x32 binocular, the object being viewed appears to be eight times closer than you would see it with the unaided eye.

Objective Lens Size

The second number in the formula (8x32) is the diameter of the objective or front lens. The larger the objective lens, the more light that enters the binocular and the brighter the image.

Coated Optics

Lens surface coatings reduce light loss and glare due to reflection for a brighter, higher-contrast image with less eyestrain.

Types of Coatings:

Coated – A single layer on at least one lens surface.

Fully Coated – A single layer on all air-to-glass surfaces.

Multi-Coated – Multiple layers on at least one lens surface.

Fully Multi-Coated – Multiple layers on all air-to-glass surfaces.

Field-of-View (F.O.V.)

The side-to-side measurement of the circular viewing field or subject area. It is defined by the width in feet or meters of the area visible at 1000 yards or meters. A wide-angle binocular features a wide field-of-view and is better for following action. Generally, the higher the magnification, the narrower the field-of-view.

Exit Pupil

Refers to the size of the circle of light visible at the eyepiece of a binocular. The larger the exit pupil, the brighter the image. To determine the size, divide the objective lens diameter by the power (an 8x32 model has an exit pupil of 4mm).

Eyeglass Wearers – Eyecups

Most binoculars come with twist-up, pop-up or soft rubber fold down eyecups which go down for eyeglass wearers. These options allow everyone to see the entire field-of-view.

Diopter Adjustment

A "fine focus" adjustment ring usually provided around one eyepiece to accommodate for vision differences between the right and left eyes.

Rubber Armor

Rubber armor provides multiple benefits. It helps protect the binocular from the bumps and scratches that come with day-to-day use. It provides a comfortable gripping surface for making them easier to hold on to. It's easy to wipe clean after a tough day in the field. And it suppresses noise if the binocular bumps aluminum or other non-rubber surfaces, which might otherwise spook wildlife

