Spotting Scope
Buying Guide 2016

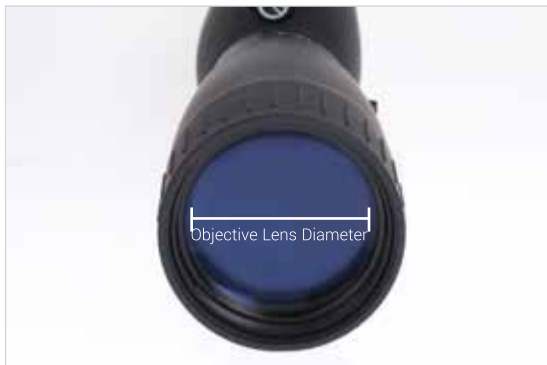
Deciding which scope to choose can seem a daunting task, so we have put together a glossary of the most commonly used terms which should help you find the correct spotting scope for your specific needs.

Magnification x Zoom

Spotting scopes are most commonly known by their magnification and lens size, for example 20-60x60, 20-60x77. The first number refers to the lowest magnification, the second to the highest magnification and the last number specifies the diameter of the objective lens. Most spotting scopes will have a maximum magnification of 15x - 60x. The higher the magnification, the more detail you will be able to see of your subject in the distance.

Objective Lens Diameter

To achieve a high quality image your scope lens needs to be able to take in as much light as possible and with a large objective lens you are able to do so. PRAKTICA lenses start at 60mm and go all the way up to 80mm, the size you choose will depend on the activity you wish to use your scope for. If you are likely to be on the move you may opt for a smaller objective lens as the scope will weigh less for example the PRAKTICA Alder 15-45x65mm. If you are likely to remain stationery when using your spotting scope in low light conditions, a more powerful magnification is needed, for example the PRAKTICA Highlander 20-60x80mm.



Waterproof and Fogproof

Fully Waterproof

Waterproof spotting scopes are completely sealed internally. This is also known as an O-ring seal which ensures that there is an air and watertight barrier between the lenses, focusing mechanism and the chassis. All PRAKTICA spotting scopes are waterproof, which means they are suitable for use in all weathers.

Fogproof

Exposing an optical device to rapidly changing temperatures can cause the lenses to mist up. To protect the spotting scope against this, PRAKTICA replace the air inside the optical barrel with nitrogen which has no moisture content and therefore does not condense. This is also called nitrogen purged. Please note that if your optics are described as weatherproof it means that they are not fully waterproof or fogproof. They will have some resistance to water so can survive light rain, but can definitely not be held under water for any period of time.

Focusing

Focus Wheel

There are two main types of focus systems; standard focusing and dual focusing. Standard focusing has just one wheel to help focus on a target, dual focusing has two focus wheels for even finer adjustment. If the subject being viewed is fast moving dual focusing is preferred.

Eyecup

Eye Cups

Eyecups maintain the distance between the ocular and our eye which helps reduce stray light while using your spotting scope. Many eye-cups are made from rubber and can twist up or down depending on whether you use glasses or not. The eye cup can be adjusted into a number of different positions (rather than just all the way up or down), so you can find the perfect eye relief for your vision.

Eye Relief

Eye relief is important for eyeglass wearers as it represents the distance a spotting scope can be held away from the eye whilst still maintaining the optimum field of view. An extended eye relief of 16mm+ allows users to wear their glasses at all times and see the entire field of view without any hassle. The PRAKTICA 15-45x60 spotting scope is perfect for this.

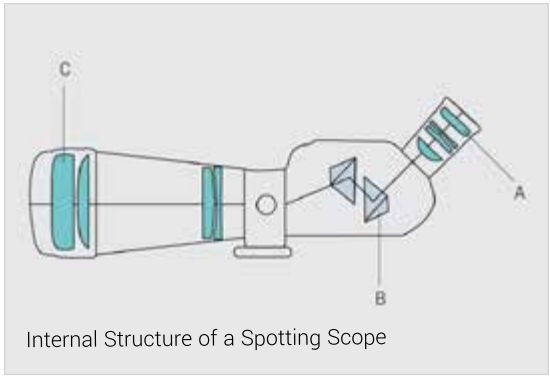
Exit Pupil


Exit Pupil Size

Exit pupil represents the amount of light that enters the eye, it can be determined by dividing the objective lens diameter by the magnification power. This will change as you alter the magnification of your spotting scope. For example, if you set your PRAKTICA Highlander 20-60x80 to 20x magnification and divide this by the objective lens (80) your exit pupil will be 4mm but if you change it to 30x magnification it will be 2.6mm. This feature is important because it can influence the spotting scopes performance in low light, in other words a smaller exit pupil will produce a darker image in low light whereas a larger exit pupil will help produce brighter images in low light. The exit pupil should only influence your buying decision if you plan to use your binoculars at dusk or at night.

Prism Glass

Optical glass quality can vary widely amongst spotting scopes. BAK-4 is a high quality optical glass which transmits bright images due to low levels of peripheral light loss. BK7 is found more often in models that are of a lower price point. Although they are not the same quality as BAK-4, BK7 in most cases do still produce a satisfactory image quality.



Internal Structure of a Spotting Scope

As the lens quality goes up, the image quality (IQ) increases as well. Some IQ maybe lost at higher magnifications, but a higher quality scope will reduce the image quality drop-off.

A - Ocular Lens
B - Prism Glass
C - Objective Lens

ED Glass (Extra Low Dispersion Glass)
This type of glass eliminates chromatic aberration, therefore producing clearer, sharper images with better resolution. ED is the best quality glass and commonly found in the most expensive models of binoculars, for example the PRAKTICA Ambassador and Marquis binocular series.

Field of View

Field of view represents the widest size of an area that can be viewed when using the spotting scope. As a rule, the higher the magnification, the narrower the field of view. A spotting scope that has a wide field of view is more suited for following fast moving objects such as birdwatching and wildlife.

Coating

Generally, all good quality spotting scopes have a basic anti-reflection coating on their lenses which assist with light transmission and help produce brighter images with improved contrast.

Types of coating

Coated - a single layer of anti-reflection coating has been applied to some lens elements in the spotting scope, usually the first and last elements.

Fully coated - all lenses have a single layer of coating.

Multi-Coated - some surfaces (usually the first and the last layers) have multiple layers of anti-reflection coatings.

Fully multi-coated - there are multiple layers of coatings applied to all lenses. This provides users with the highest level of resolution and contrasting views.