

# **How do I choose a pair of binoculars that are right for me?**

Choosing a pair of binoculars can be a bit of a minefield. There are many different Manufacturers and specifications to consider so with this brief introduction we hope to be able to explain some of the basic points to help you make the right decision.

## **What do the numbers mean?**

For this it is best to work from an example, in this case a pair of 10x50 Binoculars. The first number, '10' indicates the magnifying power of the binoculars i.e. these binoculars allow you to view an object 1/10<sup>th</sup> the distance away. The second number, '50' tells you the diameter of the Objective Lens<sup>1</sup> in millimetres and indicates the amount of light that enters the binoculars. This is also a good indication of the physical size of the binoculars.

## **What do the letters mean?**

The symbols or letters that you will find often follow the numbers e.g. XCF also provide important information about the specifications of the binoculars.

This is just a brief guide as to what some of them mean.

Z or B – This usually means that the binoculars have a porro prism body type. These types gather the light from lenses further apart than your pupils thus giving a stereoscopic effect. This counter acts the foreshortening of perspective caused by magnification.

D – This denotes roof prism binoculars. These binoculars are more compact than the porro prism binoculars but do have a tendency to be more expensive.

CF – This means that the binoculars are Centre Focusing

IF – This indicates that the binoculars are Eyepiece Focusing. You will find that most IF binoculars are 7x magnification giving a large depth of field, which eliminates the need to focus at distances over 100m.

WP – This means that the binoculars are Weather Proof or Water Proof. You will need to look at the full specification of the model you are looking at to check which it is.

W or WA – This indicates that the binoculars give you wide angled or wide field vision.

FP – This denotes that the binoculars are Fog Proof

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<sup>1</sup> The large lens at the end of the binoculars

FM – Indicates that the lenses are fully multicoated. Coating a lens surface helps to reduce the amount of light that is reflected back or dissipated from the lens, thus ensuring bright images. Multi-coating further reduces the loss of brightness - providing the sharpest, clearest images.

L – This means that they have Long Eye Relief

#### Well now that's cleared up what magnification should I choose?

For hand held use, we suggest that you go for a magnification of no greater than 10x. There are three main reasons for this. Firstly, and perhaps the most obvious, is handshake. The bigger the magnification, the more natural handshake will affect the stability of the image.

Secondly, the magnification effectively spreads the available light over the image being viewed therefore, the greater the magnification the larger the image being viewed and therefore the lower the relative brightness of the image.

Lastly, larger magnification binoculars also give a reduced depth of field<sup>2</sup> and field of view.

If you want a pair of binoculars over 10x magnification it is probably best to consider using some kind of support such as a tripod in order to eliminate natural shake.

#### I wear glasses, which binoculars will be right for me?

Many pairs of binoculars enable spectacle wearers to have the full field of view by allowing the user to fold down the rubber eyecups or by turning/pushing retractable eyecup assemblies to the 'down' position. Also it is generally a rule that the longer the eye relief<sup>3</sup>, the better the instrument for spectacle wearers.

#### Is there anything else I should consider when choosing binoculars?

Another point to consider, after you have found the right specifications for you, is the weight. If you choose a pair of binoculars which are too heavy, it may be the case that more often than not they get left at home. A lightweight pair of binoculars can be taken anywhere and will get far more general use than a heavier pair.

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<sup>2</sup> Distance in clear focus at one time

<sup>3</sup> The distance between the surface of the eyepiece and the point where the pupil is positioned for full field of view