

Choosing Binoculars

Introduction

Reading through the 'choosing binoculars' section of any astronomy book will suggest you should choose a pair of 7x50's, that is seven magnification and 50mm diameter object lenses (the front lens). While there is nothing wrong in choosing such a size, there may be reasons for buying binoculars other than astronomy, especially if buying a pair for a youngster who isn't totally committed to astronomy.

Recently, there has been an explosion in the number of miniature binoculars available in the high street for prices as low as 10 UK pounds. These are often palm sized with around 10 x 21 optics. While quite appealing, they are of virtually no use for astronomy and compare very poorly with larger sized binoculars for general use. An additional disadvantage is they seem to require focusing when changing the viewing distance by quite small amounts.



A size that is quite good for general purpose use, eg. taking with you in the car or for walks, is 7x35, they aren't quite so bulky as the 7x50's and tend to be carried more frequently. Generally don't use higher magnification than 7 for hand held binoculars, although light weight binoculars can be used up to 10 magnification, as you simply don't see any more detail due to spending too much time concentrating on holding them still. The 7x35's shown above are an old pair of Pentax Marine binoculars with the added advantage of being water proof, while not normally an astronomical requirement it helps to keep dust out too!



For more serious astronomical use, especially looking for comets, the limit is usually the size of your wallet! There are binoculars up to 25x150 that cost thousands. The largest size commonly used by amateurs is 11x80 (or up to 30x80), the pair shown in the left hand view are by Celestron and cost 100 UK Pounds on the second hand market a few years ago. Optically they are quite good, having fully coated optics their only down side is the focus mechanism is very slightly sloppy, this doesn't detract from their use and certainly isn't a reason to change them. Given the size and weight (5 pounds) hand holding these binoculars isn't really

feasible, they are supplied with an 'L' shaped bracket to mount on a photographic tripod which works well enough at low elevations, viewing overhead is another problem. There are some fairly expensive mountings available for large binoculars together with a few DIY construction articles on the Internet, in any event their use with a photo tripod will suffice for most purposes.

In conclusion, buying binoculars for astro use generally involves a size between 7x35 and 11x80, don't be tempted to buy zoom binoculars or any other gimmick, just stick to the basics and you shouldn't go far wrong.