

Binocular Sky Review: Vixen SG 6.5x32 WP ED

Manufacturer's Specification

Weight (g)	608
Field of View (°)	9.0
Eye Relief (mm)	20
IPD (mm)	56-76
Waterproof	Yes
Prism Type	Roof
UK Guarantee	2 years
Origin	Japan
Body Material	Magnesium Alloy
Armour Type	Rubber
Nitrogen Gas Filled	Yes
Prism Material	BK7
Prism Coatings	SHRC, PC, FMC
Lens Coating	Fully multi-coated
Eyecup Type	Twist-up



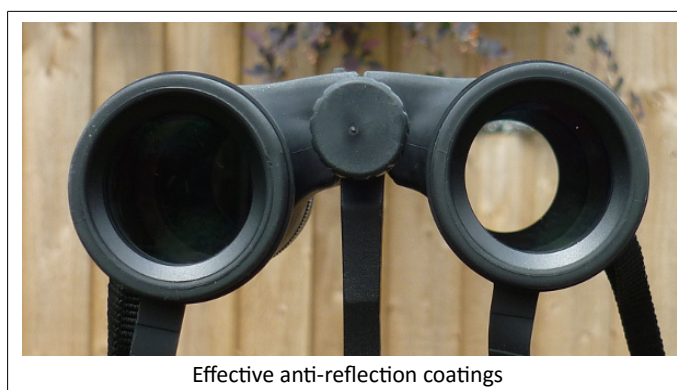
Price: £459

Available from: [Vixen Optics UK Dealers](#)

Initial Impressions

The binocular is a roof-prism model with individual eyepiece focusing. It is protected by a matte rubber armour that gives a secure grip with or without gloves, even when it is damp from a heavy dew. The binocular has a robust feel to it. Unusually for a binocular this size, it has a standard photographic (1/4" Whitworth) threaded bush at the distal end of the hinge to enable it to be tripod-mounted with a narrow tripod adaptor (not included). It also has a line-sight adjacent to the hinge. There is a lightly-knurled metal focus ring on each eyepiece which is easy to focus, and wide enough so you can avoid twisting the eyecup, even with gloved fingers. The eyepiece focusing is smooth, with no "stiction" and is sufficiently stiff to prevent accidental refocusing. Focus speed is slower near infinity-focus. The hinge is smooth and tight enough not to accidentally slip once it is adjusted or when you are adjusting the focus. The eye-cups twist up and down very easily; they have an intermediate click-stop, giving possible eye-cup depths of 5, 9 and 16mm.

The coatings look very good and reflect only a small amount of light (green dominant). The inside of the binocular is



Effective anti-reflection coatings

ribbed at the objective end, suggesting that control of stray light should be good. There are no cut-offs in the light path, suggesting that the prisms are adequately sized. The prisms are specified as being BK7 (lower dispersion than BaK-4) and “*special elements of less absorption of light*” that are fully multicoated (FMC) on their transmissive surfaces and to have phase correction coatings (PC) and Vixen’s proprietary super high-reflectivity coatings (SHRC) on the reflective surfaces.

The neck-strap has a very comfortable wide foam neck-piece that is lined with a soft Lycra-like fabric. It attaches to the lugs on the binocular with narrow nylon webbing and 3-bar buckles. The smart cordura case is quite stiff and has enough padding to protect the binocular from knocks it might get in reasonable use. It has a belt-loop but no shoulder strap, but is designed so that the binocular’s neck-strap can be used as a shoulder strap. The case closes with a hook-and-loop fastener.



The tethered rubber objective covers are an excellent fit, and do not come off accidentally; they are fitted with tabs to aid uncapping. They can be completely removed from the binocular if you don’t like dangling covers when you are observing. The eyepieces have a tetherable (right hand side, with a split loop for the left hand strap) rain-guard-type cover that fits securely. It does not restrict the interpupillary distance when it is in place.

Testing the Specifications

As you would expect with a binocular of this quality, the aperture is the full 32mm and is not internally stopped. Examination of reflections when a bright light is shone down the objective end confirms the fully multi-coated spec. I measured the minimum interpupillary distance at 56.5 mm and the maximum as 77.5mm. The minimum was not restricted by the presence of my tripod adaptor. The eye cups are 44.5 mm diameter, so there is 12 mm between them at their closest; this should be sufficient to accommodate most people’s noses. The objective lenses are recessed 5mm into their barrels, offering little protection against accidental touching, and insufficient to have any significant shielding effect on bright out-of-field lights or dew formation. With fully-corrected vision, the eyepiece dioptres are set close to zero when you focus to infinity, suggesting that they are properly adjusted.

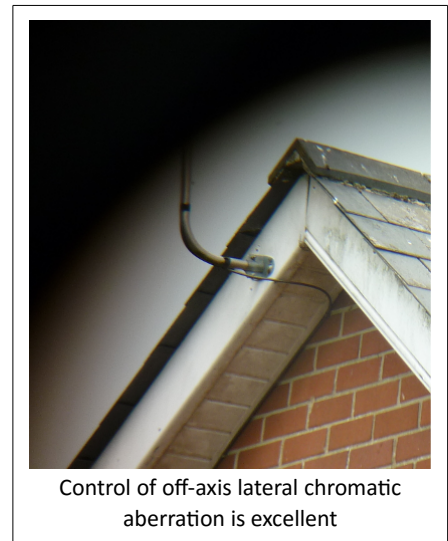
For those who observe with spectacles, the eye lenses are recessed 5mm into their housings so, with the eye-cups twisted down, there is 15mm of the accurately specified 20mm eye relief available. I found this to be adequate to enable me to see the entire field of view.

Under the Stars

For testing, I both hand-held it and mounted it on an [Amazon Basics tripod with a trigger-grip \(aka joystick\) head](#). My observing site is in a reasonably dark suburban location. Collimation was, as far as

I could ascertain, perfect. The unusual “micro-speed” variable-speed focusing is a marvellous innovation! It makes it very easy to obtain a perfect focus. The sharp optics aid this: even at micro-speed, the binocular tubes “snap” to focus.

The field of view easily contains Epsilon and Eta Corvi (8.25°), but not Alpha and Delta (9.6°) which is consistent with the specified field of 9° . The view is very sharp and flat over the central 80% of the field, outside of which sharpness drops off gradually. It cannot be focused out, so it is not field curvature. There is some astigmatism at the periphery. Delta Cephei (41 arcsec separation, magnitudes +4.1 and +6.1) was still cleanly split to about half a degree from the edge of the field of the field (i.e. over 85%) and Nu Draconis (both + 4.8, 61 arcsec) to 90% if the binocular was mounted (80% hand-held). There was some vignetting in the outer 5% or so of the field of view. Control of false colour (chromatic aberration) is excellent on axis and only becomes noticeable on high-contrast or bright objects (e.g. the lunar limb) once they are very near the edge. I did not notice it at all on first magnitude stars, which seemed to maintain their colours even towards the edge.



An example of this is when I managed to split Io and Callisto when they were 42 arcsec apart and the fainter Callisto was less than twice this distance from Jupiter. I could maintain the split until about 80% of the way to the edge, when the spreading glare of Jupiter eventually engulfed Callisto, but Io (1.8 arcmin from Jupiter’s limb) was still visible almost to the edge. The ED glass does its job very well!

There is an unobtrusive amount of pincushion distortion, just sufficient to eliminate the nauseating “rolling ball” effect that can occur without it. Control of stray light from objects in the field of view is very good, but when the gibbous Moon was just outside the edge of the field it produced some spurious reflections. If I held the binocular with my hands at the objective end, effectively extending the lens recess by a few cm, these reflections were eliminated, suggesting they are a consequence of the shallow objective recess. When the Moon was further than about its own diameter from the edge, these reflections did not occur.

As I suggested above, colour rendition is excellent. The variation in colours of the stars in the Meissa cluster was immediately obvious, even in nautical twilight.

“I used to think that a ‘Little Gem’ was a lettuce...”

It would be legitimate to ask what the role of a 6.5x32 binocular is in astronomy, and also what the point is of having one that is tripod-mountable and, furthermore, has a line sight – are these merely gimmicks? I certainly asked these things.

This is unlikely to be your first choice of instrument to seek out comets or faint fuzzies, and neither does it offer the 20° field of “enhanced vision” that you get from its [2.1x42 stable-mate](#). What it does do is something altogether different, which became immediately apparent when I looked at the Beehive Cluster (M44): beautifully proportioned in the central half of the field of view was the cluster itself surrounded by the four “manger” stars. Quite simply, it looked lovely, and the differences in the colours of the manger stars was immediately obvious. Recalling that Lucian Kemble first observed his eponymous Cascade with a 7x35, I wondered what it would be like in this little binocular. In

astronomical twilight and only 30° above the north-northwestern horizon, it looked as if a straight wisp of grey hair had fallen across the middle of the field of view, pinned in place by its central star.

Do you want a field of view that frames the entire Coma cluster (Melotte 111) in its large sweet spot? Do you want to sweep the Milky Way, seeking knots of stars, dark patches and even the faint glow of the North America nebula? If so, this could be your binocular; I found it remarkably difficult to put it down, and subsequently bought the review binocular.

And what of the tripod mountability and the line sight? Mounting this binocular helps if you are sharing the sky with a newcomer to our calling, and the line sight is surprisingly useful on the mounted binocular; I found myself using it more and more. It is especially useful when targeting objects higher than about 40° altitude, which can otherwise be quite awkward to acquire without a bit of panning around. A few pence worth of extra rubber very well spent.

Conclusions

This is a remarkably nice little binocular and I would love to try it under a truly dark sky. The variable focus speed is sheer genius: it makes attaining perfect focus so easy. Whilst I doubt that I would mount it very often, the ability to do so is an added bonus and the line sight is helpful in this regard. It is very comfortable to hold and easy to hold steadily; its 'heft' aids this. Most importantly, the optics, whilst not of the quality of a binocular costing two or three times as much, are very good indeed. 'ED glass' is a term that is widely used, sometimes in applications that are indistinguishable from 'ordinary' glass, but here it has the meaning it should: off-axis lateral chromatic aberration is minimal. This contributes to the clarity and faithful colour rendition that extends over most of the field of view. I used to think that a "little gem" was a lettuce, but it is a term I would happily apply to the Vixen SG 6.5x32 WP ED.

BK7 glass has better dispersion qualities than most of the common high-index glasses and is a perfectly acceptable option for prisms in a binocular of this type. The bright high-contrast image is testament to the effectiveness of the prism coatings.

So who is it for? At £459, it is not a beginner's binocular. With its individual eyepiece focusing and near focus of 6 m, it is probably not an ideal option for birding or racing. It isn't a substitute for a "typical" astronomical binocular. I imagine this would appeal to someone who appreciates decent glass and well thought-out design, and who wants an ultra-portable "sheer enjoyment" option for casual widefield observation or pleasurable entertainment during long imaging runs.

Binocular Sky Ratings (/10)	
Sharpness of Image	10
Size of usable field	9.2
Colour Correction	9
Control of stray light	9
Eye relief	10
IPD	10
Overall Optical Quality	9.5
Focus mechanism	10
Eye cups	10
Hinge	10
Armour	10
Weight and balance	10
Overall Mechanical Quality	10
Case	7
Neck-strap	10
Objective caps	10
Eyepiece caps	10
Value for Money	9.5
Overall	9.6

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