

# Vixen 2.8–15x56 Riflescope - Illuminated centre dot, German #4 Reticle

## Japanese optical precision at an affordable price

Reviewed by Pete Kincade



Scope was supplied with an excellent set of TPS 30mm rings (worthy of their own review). The package was mounted on a steel, 1913 Picatinny rail. Rifle used for testing was a Tikka T3x chambered in 308 Winchester. The optical quality of the scope was evident from the moment I looked through and adjusted the dioptre.

When I was asked to review a rifle scope, new to the Aussie market, and branded Vixen, I must admit I had not heard of the brand previously. Australian distributor C.R. Kennedy, established in Melbourne in 1934, are well known for distribution of high-quality optical technologies to the medical, photography, civil engineering, security and other markets. They also import and distribute firearms, binoculars and riflescopes amongst other things. Without going into a complete history of this successful, family-owned Australian enterprise, suffice to say, they are long established with a reputation for quality products and premium service.

It is no surprise that C.R. Kennedy introduced the Vixen brand of rifle scopes to Australia and New Zealand. Both companies are synonymous with attention to detail, quality, and dedication to after sales service. Because Vixen optics were unknown to me prior to conducting this evaluation, I did some research and discovered they are a Japanese based manufacturer, distributor and exporter of telescopes, binoculars, microscopes, and accessories, and they target a broad range of industrial and consumer markets.

This is a riflescope review, so please forgive me for wanting to provide some history about Vixen the company. By understanding a little of their history, it will become apparent that Vixen is a Japanese, precision optics and premium technology manufacturer. They have a proud history of commercial, optical, and technological

accomplishment, and this underpins the *performance for price* of the *Vixen 2.8–15x56 Riflescope*.

Just like C.R. Kennedy, Vixen are no late-comer to the optics industry. Vixen commenced operation in Japan immediately after the end of World War Two; what an incredible feat that must have been! The company was founded by the late Mr. Kousuke Tsuchida when he started a wholesale business specialising in optical products for industrial and consumer markets.



The Vixen SXP2 GEM for terrestrial telescopes.

One of the Vixen company's extraordinary technical achievements, is the integration of "Go-To" computer-controlled electronics in several of their portable, *German equatorial mounts* (GEM's) for telescopes and cameras. A GEM in this context can be best described as a mounting system that compensates for the Earth's rotation. The advantage of an equatorial mount lies in its ability to allow the optical instrument attached to it, to stay fixed on any celestial object with diurnal motion, by driving one axis at a constant speed.

By 1983 Vixen was manufacturing premium achromatic and, for the time, state of the art, fluorite doublet apochromatic telescopes such as the renowned Vixen 102 Fluorite Apo, some Newtonian models, and a variety of binoculars and other accessories. Today, Vixen is recognised as the Number 1 selling brand of consumer telescopes in Japan.

In 1984, after meticulous research and development, Vixen introduced their *SkySensor* GEM which was followed by their *STAR BOOK* and *SPHINX SXW and SX Compact* series Go-To GEM's in 2004. For over 72 years, Vixen has developed original products that offer solutions as simple as a child's telescope, or as complex and capable as may be required by the most demanding industrial applications, or discerning consumers.

The same technology developed by Vixen for their telescope production, is also used in the manufacture of their full line of optical products. Well, the short history lesson is over, let's put this Japanese made scope to the test.



Test platform comprised a package of “known” performance. Tikka T3x (.308 Winchester), steel pic rail, Harris bipod, TAB butt bag and 150 grain Sako super hammerhead cartridges. USA made rings by TPS were also supplied with the scope; the rings were very impressive.

To thoroughly evaluate all facets of performance, the Vixen 2.8-15x56 was mounted on a testing platform of known performance for all parameters; the scope being reviewed (and mounts) was the only change. The Tikka T3x is a work rifle that sees regular duty on deer harvests and feral pig culls. The Harris bipod and TAB Gear butt bag combination have proven their worth many times when taking long, calculated shots on undisturbed game. The Sako 150 grain super hammerhead is a premium factory load for hunting and has the added benefit of providing excellent brass for reloading. These cartridges in my T3x have accounted for chital, fallow, and red deer, along with feral pigs; they are my benchmark factory load for 308 Winchester rifle reviews.

To assess just how precise windage and elevation turret adjustments are, I prefer to perform such testing from a concrete bench certified for competition use. Fortunately, my local rifle club has these benches and I regularly take advantage of them.

Before I mounted the scope on my rifle, I took it and the rings out of their boxes. Packaging for both products was quite plain, and one could be forgiven for thinking the contents would also be plain in terms of quality and performance; this proved not to be the case. The first hint that the Vixen was a quality optic was dioptre adjustment. I fit all my rifle optics on the bench, outdoors, and preferably on my own to avoid distraction; fitting the Vixen was no exception. After determining front and rear ring positions on the picatinny rail, I torqued the base rings down, set the scope on top, mounted the top rings and set eye relief. For me, I must adjust ocular dioptre to suit *my eyes* (you should do the same) and it was this first adjustment on the Vixen that flagged its excellent optical quality. Interaction between the dioptre focus and side parallax adjustment quickly had the glass etched German #4 reticle sharp as a scalpel. This is not always the case with telescopic sights and heralded what I was about to experience when zeroing the scope for the first time.



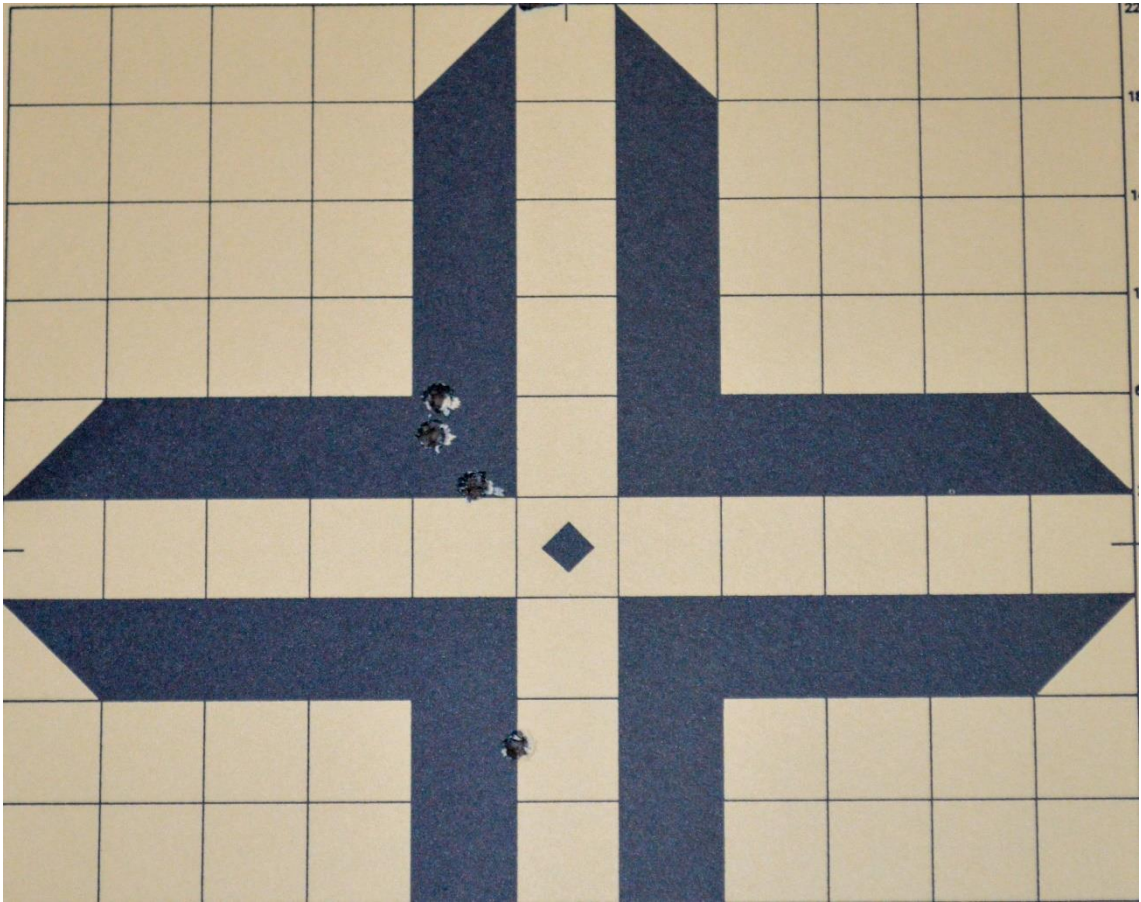


The review scope was supplied with a set of TPS, 30 mm “high” rings for mounting on a pic rail. I was extremely impressed with them and hope that I have the opportunity to review them on a long-range precision rifle in the future.

After inserting the CR2032 lithium battery (the standard for most illuminated reticle scopes and red dot reflex sights on handguns and rifles), I bore-sighted the crosshairs on a 50-metre target and placed a shot. After checking where, the shot printed, I adjusted the turrets for both windage, and elevation, and noted the smooth and precise feel of the turret clicks. I fired another shot, adjusted again, set both turrets to their respective zero marks and turned my attention to the 100-metre target.

My first shot at 100 metres was about 50 mm low and 15 mm left of the target diamond. I calculated and turned the number of clicks to adjust for elevation only and fired another shot which arrived on target about 15 mm high of the target diamond and about 25 mm to the left. Rather than adjust again, I fired another two shots which were very close together and slightly higher and to the left. Result? A nominal 20 mm group at 100 metres. I adjusted for windage and moved 4 clicks right, 1 click down, and moved to a fresh target, again at 100 metres.

The next targets would be a test for how precise and repeatable return to zero would be; not just for elevation, but for windage as well. My test methodology comprised taking a shot at the zero mark for both windage and elevation and then adjusting up and down, back and forth over and over in an effort to break the consistent repeatability. After 74 rounds I decided not to contribute to further throat erosion in my rifle and concluded the Vixen was 100% consistent and eluded my efforts prove it had any tracking error in windage or elevation.

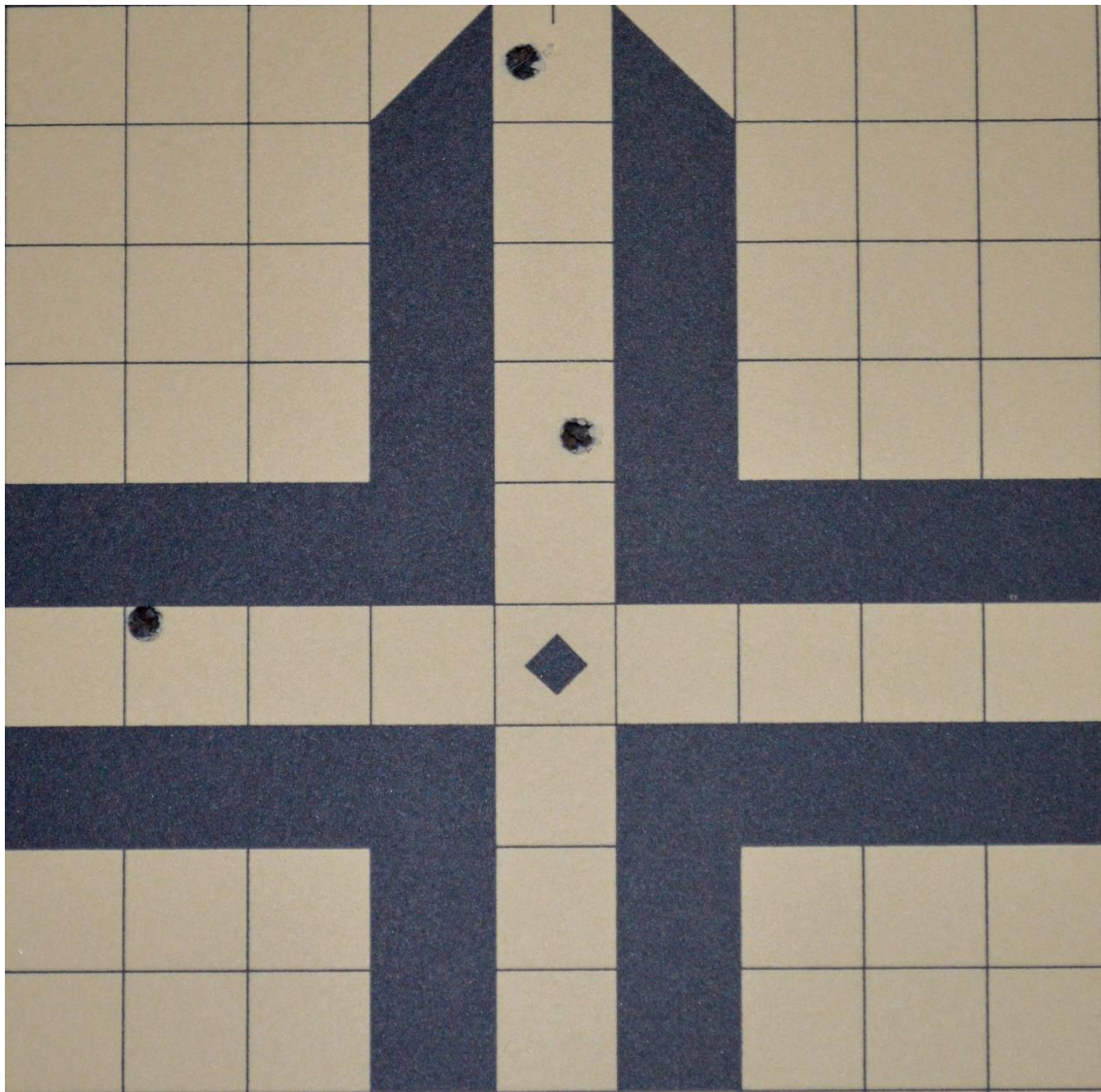


The first target for zero adjustment at 100 metres. 1<sup>st</sup> round at the lower, slightly left position, prior to one vertical adjustment, followed by a three-shot group. The turret precision was a surprise to me for a \$1500 scope. The consistency of windage and elevation adjustments were repeated over and over in subsequent tests.



Removal of the turret caps reveals the elevation and windage turrets with their simple yet effective zero markers. Simply lift and rotate, then press down to align the zero mark once you are happy with your point of aim.

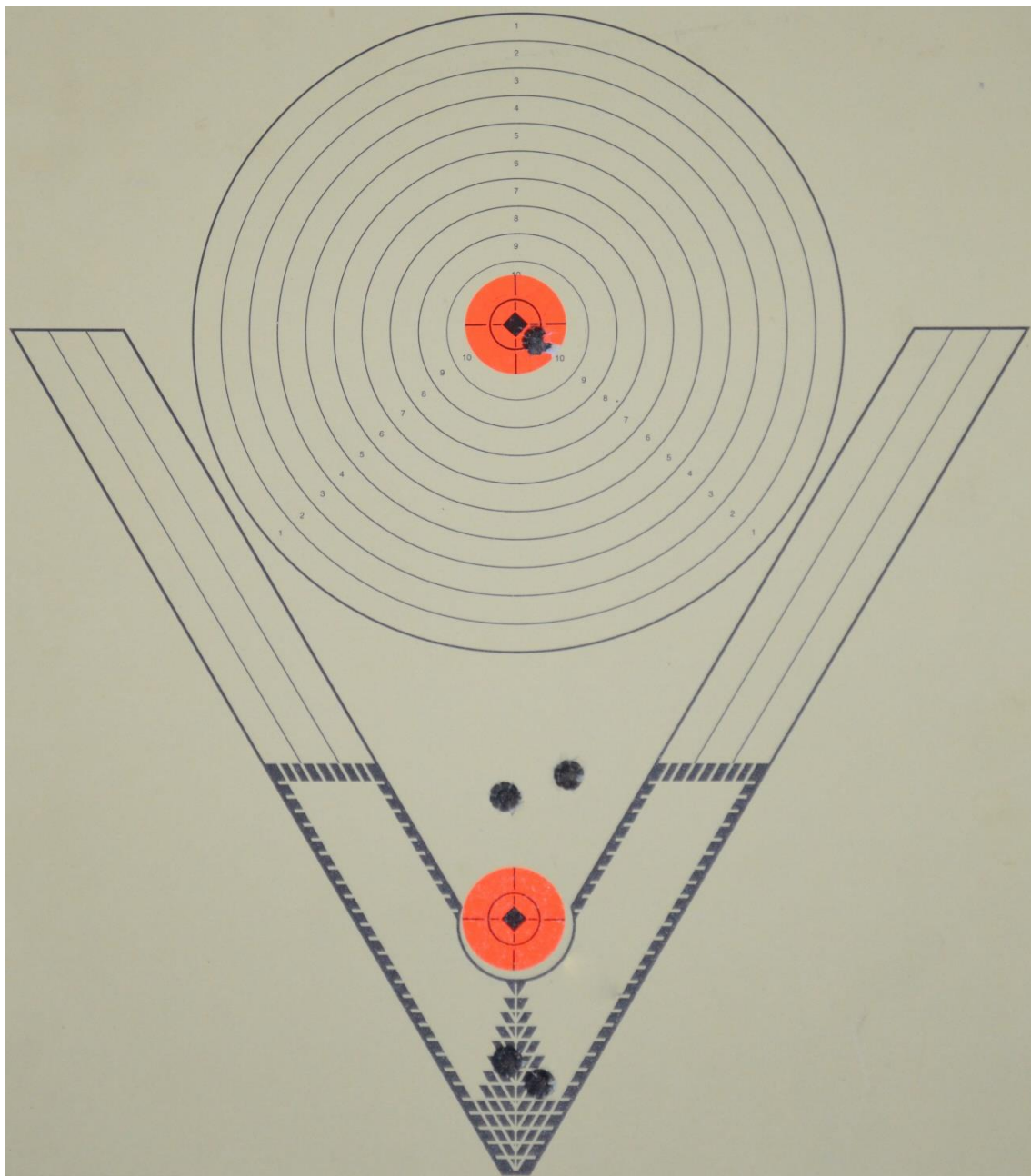




Target Distance 100 metres. Example of windage and elevation adjustment to simulate both wind and distance to target.

In the image above, the first shot (left) is the result of 11 clicks left of zero (centre diamond). The bullet prints nominally correct with factory ammunition in a factory rifle. Second shot (centre above diamond) prints almost perfectly on adjusted zero after dialling windage back 11 clicks right, and 7 clicks up. Always wanting to go one shot better than before, (ego will always catch you out) for the 3<sup>rd</sup> and final shot I adjusted 1 click left and 15 clicks up. Shot 3 prints exactly as adjusted. If I had not given in to ego, this shot would have been nominally centred in the top centre quadrant.

I was able to repeat this consistency over and over but before my final test, I had to show the Vixen I was no push-over, so I elected to wind the turrets back and forth from full up to full down and full left to full right over a 60-minute period. I will admit that at times I feared I might break the scope doing this and wondered how I would explain that to the distributor C.R. Kennedy. However, after an hour of this punishment to both the scope and my anxious self, I re-zeroed the Vixen and proceeded to my final accuracy and consistency test.



200 metre accuracy and turret precision/consistency test. NB: This test was executed after an hour of manual turret cycling from full-up/full-down and full-left/full right rotation.

Before the final test I thoroughly cleaned all traces of carbon and copper from the Tikka's barrel and by the time I had finished, the early afternoon sun was shining in a cloudless sky with an almost imperceptible hint of breeze at the back of my neck, perfect for this final test.

Before firing and because the target was now at 200 metres, I increased elevation by several clicks, settled my breathing, took aim and fired two rounds at the sighter (lower orange circle). These rounds arrived about 35/40 mm low and windage was spot on. The 150 grain Sako super hammerheads grouped where they should. I had not increased elevation sufficiently, my fault, not the Vixen's. Some clouds were moving in, and I suspected there may be a shower or two later that evening. Time to adjust and fire again.

This time I was not about to let ego get the better of me twice in one day, so I left the windage untouched and increased elevation by 5 clicks and fired another two shots.



These rounds arrived about 70 mm higher which was expected. However, the wind had just started to gust slightly left to right and I suspected time and conditions would soon be against me. I made one last adjustment of eight clicks up on the top turret, checked the Harris bipod fastener was still super tight on the forearm and settled behind the butt. I squeezed the TAB Gear butt bag one last time and settled the Vixen's centre red dot on the centre of the little orange disc 200 metres downrange, while at the same time waiting for that break in the left to right breeze that I knew would come; and it did. I squeezed the Tikka's trigger and the lightweight hunting tool bucked on the bench. Without a brake I lost sight picture for a second, but follow-through showed me the bullet hole well inside the 25 mm orange disk, 200 metres downrange.



### **How clear and sharp is the Vixen 2.8-15x56 Riflescope?**

Let me answer that by first putting this all-important question into perspective.

All optical devices process waves of light (photons) which our brains interpret. The process of transmitting light into an image, viewed by our eyes and decoded by our brain is a science that concerns itself with the physical and geometrical study and understanding of not only light itself, but how light is captured, interpreted, stored and measured. All optics, regardless of how premium they may be, will always display *some* degree of chromatic aberration.

When using a telescope, camera, binocular or rifle scope, aberrations can be seen by our eyes as colour distortion, blurriness, haze at the outer edges of the field of view and other differences in clarity at various or fixed magnifications when viewing objects either near or far away. It is important to understand that aberration is NOT the result of mechanical flaw(s) but rather, the result of the shape and position of lenses, prisms and other optical elements between the source of light and how we see it (in this scenario) when we look through our riflescope.



Premium optics manufacturers invest a great deal in research and development to reduce aberration. Glass composition, lens coatings and other aspects that affect light transmission are constantly being revised to provide the user with optimal performance for their hard-earned money. I am fortunate to own scopes and binoculars that are of premium quality, and I regularly review riflescopes and binoculars from various manufacturers with features and price-points from budget to heavenly.

From my experience, quality always comes at a price, and here is the anomaly presented by the Vixen 2.8-15x56 Riflescope. This is a \$1500 scope that has all the features a hunter will need. The scope punches well above its weight with low-aberration and low colour distortion, usually found on scopes costing twice as much.

Add to this the glass etched German #4 reticle and illuminated centre red dot. The German #4 is a reticle that provides heavy outer horizontal and lower vertical crosshairs combined with finer vertical and lower inner crosshairs. With or without the red dot switched on, the reticle is well suited to running game at low power or undisturbed game at distance at full power. The red dot is fine and does not obliterate even head shots on small game at distance.

When I evaluated the scope's performance at first daylight and again at dusk the same day, I could not help but think this is a scope that was designed for German still hunters pursuing wild boar and deer in forests where light is often waning. The 56mm objective really pays dividends and the red dot can be dialled down so low as to be as perfect as any hunter would want in low light conditions. For Aussie Forest deer hunting, the scope presents not just great value, but all the features needed.

In concluding my thoughts on the Vixen, I have to say that its ability to assist the hunter to make humane, terminal shots on game at distance is its greatest feature. It achieves this by combining a very precise and very consistent turret system with a fool-proof return to zero feature. Optically, the glass provides clarity and brightness with a low-level of aberration that normally comes at a higher price

All men and women who call themselves rifle hunters must know their cartridge trajectory and ballistic performance in addition to where to place their bullet; certain and humane dispatch of the harvest cannot be guaranteed without this knowledge. The Vixen 2.8-15x56 Riflescope presents hunters with external parallax adjustment, precise turrets for trajectory and wind compensation, and a very clear and sharp sight picture.

223 Remington, 300 Winchester Magnum or whatever your preferred long-range hunting rifle is chambered for, the Vixen 2.8-15x56 Riflescope with its Illuminated German #4 reticle presents exceptional value for a Japanese manufactured second focal plane hunting scope.

## Specifications

Model	82281
Focal Plane	2 <sup>nd</sup>
Variable Magnification	2.8 to 15
Dioptré Range	+2/-3
Twilight Factor	4.47
Reticle	Glass etched, German #4
Reticle Illumination	Centre red dot. 11 brightness settings with switch-off step between each setting
Internal Battery	CR2032 (comes with scope)
Length	373 mm
Turret Type	Capped with O-ring, internal turrets
Windage & Elevation	¼ MOA (7 mm/100 metres)
Return to Zero	Internal Turret, lift-up & return to zero
Body	Aluminium, 1 piece
Tube Diameter	30 mm
Objective Lens Diameter	56 mm
Shockproof	Yes
Parallax Adjustment	Side focus, 10 metres to infinity.
Colour	Matte Black
Eye Relief	85 - 99 mm
Exit Pupil	3.7 mm – 11.4 mm
Minimum Field of View	2.5 metres @ 100 metres
Maximum Field of View	13.2 metres @ 100 metres
Weight	785 grams
Exterior Lens Covers	Ocular & objective lens slip on cover
Fog proof	Nitrogen purged
Waterproof	O-ring sealed
Lens Multi-Coatings	Vixen proprietary, fully multi-coated lens system
Warranty	Limited lifetime warranty to original purchaser.
Country of Manufacture	Japan
RRP	\$1,499.00 inc. GST