VORTEX®

PRODUCT MANUAL

AMG®

1-10x24 FFP RIFLESCOPE

VORTEX

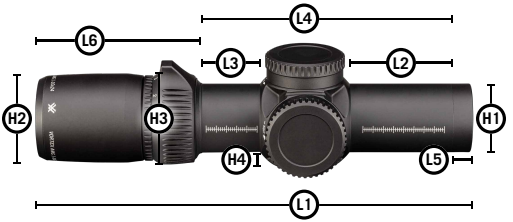
ENGINEERED FOR MASTERY YOU NEVER DREAMED POSSIBLE

MADE IN USA
WITH US AND GLOBAL PARTS

SPECIFICATIONS

CONFIGURATION	1-10x24
SKU	AMG-11002
FOCAL PLANE	FFP
RETICLE	Illuminated EBR-9 MRAD
ILLUMINATION SETTINGS	9 Daylight & 2 Night-Vision
EYE RELIEF	3.3"
LINEAR FIELD OF VIEW (@100 YDS.)	116.0' - 12.0'
TURRET STYLE	Dual Zero – Capped
TUBE SIZE	34mm
ADJUSTMENT GRADUATION	0.1 MRAD
TRAVEL PER ROTATION	10 MRAD
MAX ELEVATION ADJUSTMENT	30 MRAD
MAX WINDAGE ADJUSTMENT	30 MRAD
PARALLAX SETTING	250 yds.
LENGTH	8.4"
WEIGHT	18.8 oz.

1-10x24



DIMENSIONS		
OVERALL LENGTH	L1	8.4"
FRONT MOUNTING SURFACE	L2	1.97"
REAR MOUNTING SURFACE	L3	1.12"
OVERALL MOUNTING SURFACE	L4	4.86"
OBJECTIVE LENGTH	L5	0.38"
EYEPIECE LENGTH	L6	3.20"
OUTSIDE DIAMETER OBJECTIVE	H1	1.33"
OUTSIDE DIAMETER EYEPIECE	H2	1.74"
MAGNIFICATION RING OUTSIDE DIAMETER	H3	1.81"
TURRET SADDLE DEPTH	H4	0.16"

Images are for representation only.
Product may vary slightly from what is shown.

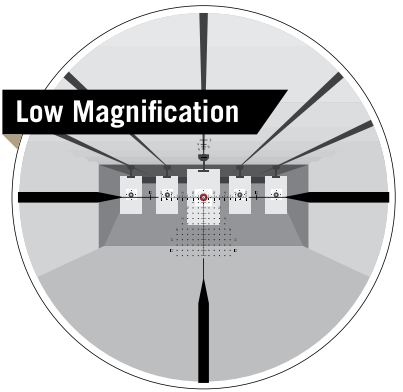
AMG® 1-10x24 FFP RIFLESCOPE

Born from the demands of the world's most elite operators, the AMG® 1-10x24 was conceived to meet a standard that didn't exist, until now. Compact enough to run on carbines fully equipped with thermal attachments, lasers, red dots, and backup irons. Tough enough to survive what crushed everything else. Patented internals and structural innovations, every ounce engineered with purpose for those who've outgrown everything else.

INITIAL SETUP

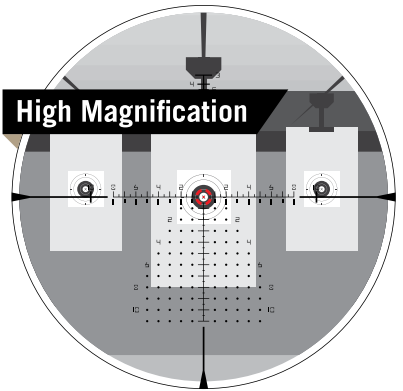
Reticle Focal Plane (Second Focal Plane vs First Focal Plane)

All riflescope reticles can be termed either first focal plane (FFP) or second focal plane (SFP), with respect to the reticle's internal location within the erector system. A SFP reticle is visually consistent in size and weight across the magnification range; however, the subtension values are only accurate on one magnification, typically the highest. In contrast, a FFP reticle will scale with magnification, and their subtensions used for ranging, holdovers, and wind corrections will remain constant. The reticle size will appear larger at higher magnifications, and smaller at low magnification.



First Focal Plane Reticle

The AMG® 1-10x24 features a first focal plane (FFP) reticle. FFP reticles are located within the riflescope near the Windage and Elevation Turrets. This style of reticle will appear to grow and shrink as you change the magnification.



Ocular Focus – Locking Fast-Focus Eyepiece

The ocular focus is typically a one-time adjustment used to focus the reticle for maximum sharpness. This adjustment is slightly different for every shooter. A clearly focused reticle is a critical component for accurate shooting. When setting up a riflescope, this should be the first adjustment you make and should only need to be changed from user to user, or if your eyesight changes over time.

Ocular Focus – Locking Fast-Focus Eyepiece Adjustment

The AMG® 1-10x24 FFP riflescope uses a Locking Fast-Focus Eyepiece designed to quickly and easily adjust the focus on the riflescope's reticle, while ensuring it stays in place.

Warning: Looking directly at the sun through a riflescope, or any optical instrument, can cause severe and permanent damage to your eyesight.

Adjusting the Reticle Focus for the Flattest Field of View on 1x:

1. Turn the Magnification Adjustment Ring to 1x. Looking through the optic, turn the Locking Eyepiece counterclockwise until the reticle is slightly blurry.
2. While looking at an object about 25 yards away, turn the Locking-Eyepiece clockwise until the image is true 1x. The object should appear the same size through the optic as it does to your naked eye. This may take several attempts.
3. Once the reticle is clear and crisp, turn the Locking Nut counterclockwise until it meets the Locking-Eyepiece.
4. Once the Locking Nut contacts the Locking-Eyepiece, lock the focus into place by tightening the Locking-Eyepiece clockwise so that there is no movement in the Eyepiece.

   Note: Further rotation of the Locking Nut after first contact with the Locking Fast-Focus Eyepiece can cause you to loose true 1x.

   Note: This will be a target-dependent adjustment for close-range shooting and may cause the reticle to appear slightly out of focus on the highest power.

   Note: You do not want your eye to focus to the reticle, rather you want the reticle in focus to your eye instantly when looking through the optic. Looking away and letting your eyes refocus is important in getting the Locking Fast-Focus Eyepiece set correct.

Adjusting the Reticle Focus to Your Eye at High Magnification:

1. Turn the Locking Nut clockwise slightly to allow for adjustments of the Locking-Eyepiece.
2. Turn the Magnification Adjustment Ring to 10x.
3. While looking at a white wall or clear blue sky, taking short glances through the optic, turn the Locking Eyepiece clockwise until the reticle is clear and crisp as soon as you look through the optic. This may take several attempts.
4. Once the reticle is clear and crisp, turn the Locking Nut counterclockwise until it meets the Locking-Eyepiece.
5. Once the Locking Nut contacts the Locking-Eyepiece, lock the focus into place by tightening the Locking-Eyepiece clockwise so that there is no movement in the Eyepiece.

Once this adjustment is complete, it will not be necessary to refocus every time you use the riflescope. However, because your eyesight may change over time, you should recheck this adjustment periodically.

Parallax

Parallax results when the target image is not on the same optical plane as the reticle within the riflescope. This can cause an apparent movement of the reticle in relation to the target if the shooter's eye is off-axis behind the optic.

Fixed Parallax

The AMG® 1-10x24 FFP riflescope comes equipped with a fixed parallax setting at 250 yards. With a fixed parallax, the shooter may experience small amounts of parallax error inside and outside of 250 yards, or if the shooter is off-axis behind the optic. If the shooter is perfectly aligned behind the optic, or at 250 yards, there should be no parallax error.

Magnification Adjustment

The Magnification Adjustment Ring is used to change the riflescope's "power." The AMG® 1-10x24 FFP riflescope is a variable powered optic with a 10x optical design. This will allow you to change the power from 1x to 10x using the Magnification Adjustment Ring.

Making magnification adjustments is smooth and easy with the Integrated Throw Lever. To adjust your optic's magnification, rotate the Magnification Adjustment Ring clockwise, or counterclockwise, to increase or decrease the magnification to your desired level.


BECAUSE
OUTCOMES
AREN'T JUST
MEASURED IN
POINTS
BUT
CONSEQUENCES

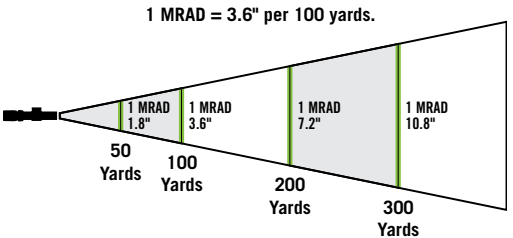
TURRETS

The AMG® 1-10x24 FFP riflescope is offered in Milliradian (MRAD).

Note: The top of both the Windage and Elevation Turret will state what unit the riflescope is laid out in.

Milliradian (MRAD) Adjustment

Milliradian is an angular unit of measurement commonly found in riflescopes. It is used to measure bullet drop, wind holdovers, and for measuring targets. Both the reticle and turrets will be laid out in specific MRAD values. 1 MRAD equates to 3.6" at 100 yards, 7.2" at 200 yards, 10.8" at 300 yards, etc. Being an angular unit of measurement, the values of 1 MRAD will increase/decrease proportionally as you increase/decrease the distance you are shooting. For this reason, think about all of your adjustments in MRAD, rather than in linear units such as inches. If your turret, reticle, and drop chart are all laid out in MRAD, adjusting your riflescope for bullet drop or windage corrections is extremely easy.



Elevation and Windage Turrets

Use turrets to adjust the bullet's point of impact. The AMG® 1-10x24 FFP riflescope uses .1 MRAD turret adjustments on both the Windage and Elevation Turrets. Each click will move the bullet's point of impact roughly .36" at 100 yards for MRAD. The turret on the top of the riflescope is the Elevation Turret, which is used to adjust the bullet's point of impact up and down. The turret on the right-hand side of the riflescope is the Windage Turret and is used to adjust the bullet's point of impact left and right.

Capped Turrets

The AMG® 1-10x24 FFP riflescope has capped turrets. This protects the turrets from accidental adjustments while out in the field, in transit, or in storage. You will need to remove the caps prior to making any adjustments on the turrets.

Note: The riflescope is still waterproof with the caps removed.

Adjusting Capped Turrets:

1. Remove the turret caps by spinning counterclockwise.
2. Following the directional arrows, turn the dials in the direction you wish the bullet's point of impact to change. (If you hit high, dial down. If you hit low, dial up. If you hit right, dial left. If you hit left, dial right.)
3. When finished adjusting, replace the turret caps.

   Note: The reticle will move in the opposite direction of the turret dials. When you dial up, the reticle will move down, forcing you to aim higher, changing your point of impact upward.

Illumination

The AMG® 1-10x24 FFP riflescope uses a variable intensity reticle to aid in low-light performance.

To Turn Illumination On

To activate the illumination, pull out on the Locking Illumination Control Knob on the left-hand side of the riflescope. Rotate the knob in either direction.

To Adjust Illumination Brightness

Once the illumination is on, continue to rotate the Illumination Control Knob to cycle through 11 levels of brightness.

To Turn Illumination Off

To turn the illumination off, dial the Illumination Control Knob to one of the "-" between the brightness levels.

Note: When the illumination is off, the reticle will appear black.

Once you've adjusted to your preferred setting, push in the Locking Illumination Control Knob to lock in your illumination setting and prevent accidental adjustments.

Battery Installation/Replacement

To install/change the battery, unscrew the Illumination Control Knob's cap and install a new CR2032 battery with the positive (+) facing out.

Replacing the Battery:

1. Unscrew the cap by spinning counterclockwise.
2. Remove the CR2032 battery.
3. Replace with a new CR2032 battery with the positive side (+) facing out.
4. Reinstall the battery cap by spinning clockwise until tight.


THIS ISN'T
ABOUT
STEPPING
UP
IT'S ABOUT
STEPPING
BEYOND

RIFLESCOPE MOUNTING

To get the best performance from your riflescope, proper mounting is essential. Although not difficult, the correct steps must be followed. If you are unsure of your abilities, use the services of a qualified gunsmith.

Please take note of the instructions on the following pages. For the proper riflescope mounting procedure go to **VortexOptics.com/vortex-nation-videos** for a video tutorial.

Riflescope Mounting Checklist

- Gun vise or a solid platform for your rifle
- Riflescope rings or mount
- Torque wrench
- Reticle leveling tool(s) (such as feeler gauges or bubble levels and a plumb bob)

Recommendation:

Pick up the Vortex® Pro Torque Wrench, which comes with the complete set of bits needed to install Vortex® riflescopes and rings and the Vortex Pro Leveling Kit.

Rings and Bases

The AMG® 1-10x24 FFP riflescope features a 34mm main tube. Be sure to select a base and matching rings or mount appropriate for your riflescope's mount according to manufacturer's instructions.

Tip: Selecting the proper ring height to provide appropriate clearance between the riflescope and any part of the rifle is paramount. The proper height will also allow for a comfortable head position and aid in establishing a solid and consistent shooting position. The height of a ring will not have an adverse effect on accuracy and overall range or performance.

Eye Relief and Reticle Adjustment

After installing the bottom ring halves on the mounting base, place the riflescope on the bottom ring halves and loosely install the upper ring halves. Before tightening the riflescope ring screws, adjust for maximum eye relief to avoid injury.

1. Set the riflescope to its highest magnification.
2. Move the riflescope fore and aft in the rings until you achieve a full, unobstructed sight picture.
3. Without disturbing the fore-aft placement, rotate the riflescope until the reticle is level. Use a leveling tool(s) such as feeler gauges or bubble levels and a plumb bob to aid in this process.
4. After leveling the reticle, tighten and torque the ring screws down per manufacturer's instructions. Use caution and do not over-tighten ring screws.

   Note: We typically suggest 15-18 in-lbs of torque on the ring screws. If the mount/ring manufacturer suggests more or less, contact the Vortex® Technical Department for the best instructions. For base clamp screws on the rings/mounts, reference the ring manufacturer's specifications. We do not recommend liquid thread-locking compound on the ring screws.

If you have questions about a specific setup, please call our Technical Department at:

1-800-4VORTEX (1-800-486-7839) Ext. 1

SIGHTING IN YOUR RIFLESCOPE

Bore Sighting

Initial bore sighting of the riflescope will save time and money at the range by roughly aligning the riflescope to the rifle. This can be done several ways, either by using a mechanical or laser bore sighter according to the manufacturer's instructions, or by removing the bolt and sighting through the barrel.

To Visually Bore Sight a Rifle:

1. Place the rifle on a solid rest and remove the bolt.
2. Sight through the bore at a target approximately 100 yards away.

   Note: It will help to have larger, high contrast target to focus on as it can be difficult to pick up smaller targets through the rifle's bore.
3. Move the rifle and rest until the target is visually centered inside the barrel.
4. With the target centered in the bore, make the necessary windage and elevation adjustments until the reticle is also centered on the target. You may notice the reticle travel in the opposite direction as listed on the turrets. This is completely normal.

Final Range Sight-In

After the riflescope has been bore sighted, final sight-in should be done at the range using the exact ammunition you expect to use while hunting or shooting competitively. Sight-in and zero the riflescope at the preferred distance. 50 to 200 yards are the most common zero distances.

1. Following all safe shooting practices, fire a three-shot group as precisely as possible to determine an average point of impact to correct from. This will also help you establish the weapon system's accuracy potential.
2. Adjust the turrets to correct for any offset in your point of impact. Be sure to read pages 16-18 prior to adjusting.
3. Fire another three-shot group to establish another average point of impact. This procedure may be repeated as many times as necessary until your point of impact and your point of aim are in the same place, and you have achieved a perfect zero.

   Note: Vortex® does not recommend the use of a weighted gun vise, as it can put extreme stress on the gun, stock, riflescope, and mounts. It is best practice to use a combination of sandbags or a bipod and sandbags. Letting your weapon recoil naturally also provides consistency from shot to shot.

Reindexing the Elevation and Windage Turrets and Setting the Dual Zero

After the rifle and riflescope have been zeroed in, the Elevation and Windage Turrets should be reindexed to their zero indicators. This will allow you to accurately keep track of elevation or windage corrections dialed on the turrets in the field and quickly return to an original zero-point setting.

To Reindex the Turrets:

1. Remove the outer cap by spinning counterclockwise.
2. While holding the Elevation/Windage Turret Dial firmly between thumb and forefinger to prevent any rotation, use your other hand to remove the toolless Turret Retaining Nut on top of the dial.
3. Gently pull both turret dials straight up and off the turret post, being careful not to rotate the post.
4. Reinstall both turret dials lining up the “0” mark on both turret dials with the indexing mark on the riflescope body and replace the Turret Retaining Nut on top of the dial.
5. Replace the turret cap.

To Set a Second Zero:

1. Remove the outer cap by spinning counterclockwise.
2. Zero your rifle in the second configuration.
3. While holding the Elevation/Windage Turret Dial firmly between thumb and forefinger to prevent any rotation, use your other hand to remove the toolless Turret Retaining Nut on top of the dial.
4. Gently pull only the top turret dial straight up and off the turret post, being careful not to rotate the bottom turret dial or post.
5. Reinstall the top turret dial lining up the “0” mark with the indexing mark on the riflescope body and replace the Turret Retaining Nut on top of the dial.
6. Replace the turret cap.


BORN FROM
THE
DEMANDS
OF THE
WORLD'S
MOST ELITE
OPERATORS

MAINTENANCE

Cleaning

Your Vortex® riflescope requires very little routine maintenance other than periodically cleaning the exterior lenses. The riflescope's exterior may be cleaned by wiping with a soft cloth. When cleaning the lenses, be sure to use products that are specifically designed for use on coated optical lenses.

- Be sure to blow away any dust or grit on the lenses prior to wiping the surfaces.
- Using your breath, or a very small amount of water or pure alcohol, can help remove stubborn dried water spots.

Lubrication

All components of the riflescope are permanently lubricated, so no additional lubricant should be applied.

Note: Other than removing the Turret Caps and Battery Cap, do not attempt to disassemble any components of the riflescope. Disassembling of riflescope may void warranty.

Storage

If possible, avoid storing your riflescope in direct sunlight or any very hot location for long periods of time.

TROUBLESHOOTING

Please consult the following list prior to returning a riflescope for service. Many times, a problem thought to be with the riflescope is a mounting issue. Make sure you're using the correct rings and bases and that they are properly torqued to the rifle. Be sure there is no free play in the riflescope, base, or rings.

Common Issues

Point of Impact is Inconsistent or Changes Drastically After Turret Adjustment

- Verify that the ring screws are not over-torqued. Ring screws should only be torqued to Vortex® recommendations, and no thread-locking compound or lubricants should be applied. Over-torquing ring screws will cause excess pressure on the tube, which may cause problems when making turret adjustments.
- Remove the riflescope from the rings and visually check the riflescope tube for slide marks, and/or indentations from over-torqued, or out-of-spec rings.
- Ensure the rifle's action screws are tightened to the rifle manufacturer's specification.
- Be sure that the base is tightened using thread-locking compound to the top of the rifle's receiver to manufacturer's specifications.
- If using the riflescope on an AR-style rifle, ensure that the cantilever mount/rings are mounted only to the top of the receiver. The cantilever mount/rings need to be mounted to a single, solid surface. Make sure the forward connection of the cantilever mount, or ring, is not mounted to the fore-end of the rifle.

- Be sure the rifle barrel and action are clean and free of excessive oil, or copper and powder fouling.
- Some rifles and particular ammunition do not work well together. Try different ammunition and see if accuracy improves.

Insufficient Windage and Elevation Adjustment Range

- Be sure you have the proper base and rings for your rifle. If you need assistance, contact a local gunsmith or the Vortex® Technical Department.
- Once you have verified you have the correct base and mounts, and that you have been properly fitted for your gun, make sure you have followed the correct mounting procedure. See Riflescope Mounting Section on pages 24 and 25 for this procedure.
- Insufficient windage or elevation adjustment range usually indicates problems with the mounting, base mount holes drilled in the rifle's receiver, or barrel/receiver misalignment.

Reticle is Blurry/Cannot Focus on the Reticle and Target Simultaneously OR Image is Larger than 1x while on 1x on the Magnification Dial

- Check and reset the ocular focus for the shooter's eye. See Riflescope Adjustment Section, Ocular Focus – Locking Fast-Focus Eyepiece Adjustment on pages 11 and 12.

Reticle is Upside Down

- The riflescope is likely backwards. Confirm that you are looking through the larger end of the AMG® 1-10x24 FFP riflescope.

Reticle is Moving the Wrong Direction

- The reticle will always move opposite of the turrets. Markings on the turrets indicate point of impact change. If you dial down on the turret, the reticle will move upward, forcing you to move the gun down, to change your point of impact downward.

SAFETY AND PRECAUTIONS

The AMG® 1-10x24 FFP riflescope contains a 3V CR2032 battery.

⚠WARNING

- **INGESTION HAZARD:** this product contains a CR2032, 3V button cell or coin battery.
- **DEATH** or serious injury can occur if ingested.
- A swallowed button cell or coin battery can cause **INTERNAL CHEMICAL BURNS** in as little as **2 HOURS.**
- **KEEP** new and used batteries **OUT OF REACH OF CHILDREN.**
- **SEEK IMMEDIATE MEDICAL ATTENTION** if a battery is suspected to be swallowed or inserted inside any part of the body.

- Remove and immediately recycle or dispose of used batteries according to local regulations and keep away from children. Do NOT dispose of batteries in household trash or incinerate.
- Even used batteries may cause severe injury or death.

- If ingested, call a local poison control center for treatment information.
- Non-rechargeable batteries are not to be recharged.
- Do not force discharge, recharge, disassemble, heat above (manufacturer's specified temperature rating) or incinerate. Doing so may result in injury due to venting, leakage or explosion resulting in chemical burns.
- Ensure the batteries are installed correctly according to polarity (+ and -).
- Do not mix old and new batteries, different brands or types of batteries, such as alkaline, carbon-zinc, or rechargeable batteries.
- Always completely secure the battery compartment. If the battery compartment does not close securely, stop using the product, remove the batteries, and keep them away from children.

NOTICE

Virtual Patent Marking Notice By Vortex Optics

This product may be protected by patents in the U.S. and elsewhere for Vortex Optics. **http://vtx.legal** website is provided to satisfy the virtual patent marking provisions of various jurisdictions including the virtual patent marking provisions of the America Invents Act and provide notice under 35 U.S.C. §287(a). Please visit **http://vtx.legal** to view list of products that may be covered by one or more U.S./Foreign patents or published patent applications.

VIP® WARRANTY

OUR UNCONDITIONAL PROMISE TO YOU.

We promise to repair or replace the product. Absolutely free.

- **Unlimited.**
- **Unconditional.**
- **Lifetime Warranty.**

You do not have to register, save the box, or a receipt for the Warranty to be honored.

Learn more at VortexOptics.com

service@VortexOptics.com • 1-800-4VORTEX

Note: *The VIP® Warranty does not cover loss, theft, deliberate damage, or cosmetic damage not affecting product performance.*

For the most up to date manual visit
VortexOptics.com

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