



HAWKE®

FFP MOA PRO EXT.

## OVERVIEW

The FFP MOA Pro Ext. reticle was developed specifically for first focal plane optical systems and based around the common principles of MOA spaced reticles. With MOA spaced markings extending out to 60 MOA of holdover, the FFP MOA Pro Ext. is a versatile reticle that provides aim points no matter how extreme the distance.

All reticle measurements are MOA spaced and offer 1 MOA and 0.5 MOA brackets for range finding. Every fourth MOA spacing on the lower section is numbered to ensure quick and easy acquisition of target and ease of reference.



The thick outer posts are hollowed to ensure they can be seen at all magnifications, without blocking out too much of the view.

## RETICLE SUBTENSIONS

### MOA-MOA SETUP

The MOA spaced reticle and  $\frac{1}{4}$  MOA turrets make for easy point of aim adjustment. Every 4 clicks on the turret will measure exactly 1 MOA spacing on the reticle. Because of FFP this is true on all magnifications.



## IMPERIAL

1 MOA = 1.047in @ 100yds. At different ranges this MOA gap will change:  
50yds = 0.5in, 100yds = 1.0in, 200yds = 2.1in, 300yds = 3.1in.

## METRIC

1 MOA = 29mm @ 100m. At different ranges this MOA gap will change:  
50m = 15mm, 100m = 29mm, 200m = 59mm, 300m = 87mm.



## ÜBERSICHT

Das MOA Pro Ext-Absehen mit erster Brennebene (First Focal Plane, FFP) wurde speziell für optische Systeme mit erster Brennebene entwickelt und baut auf den gängigen Prinzipien für Absehen mit MOA-Abstand auf. Mit Markierungen im MOA-Abstand bis zu 60 MOA Haltepunkten nach oben ist das FFP MOA Pro Ext ein vielseitiges Absehen, das selbst unter extremsten Bedingungen Zielpunkte bietet.

Alle Absehenmaße haben Mil-Abstand sowie 1 MOA und 0,5 MOA Markierungen zur Entfernungsmessung. Jeder vierte MOA-Abstand im unteren Abschnitt ist nummeriert, um eine rasche und einfache Zielerfassung mit guter Übersichtlichkeit zu gewährleisten.

Die dicken äußeren Linien sind Hohllinien, damit sie bei allen Vergrößerungen sichtbar sind, ohne die Sicht zu behindern.

## ABSEHENSABDECKUNGEN

### MOA-MOA-Setup

Das Absehen im MOA-Abstand und die  $\frac{1}{4}$  MOA-Verstelltürme ermöglichen eine einfache Zielpunkteinstellung. Jeweils 4 Verstell Schritte an dem Verstellturm entsprechen genau 1 MOA-Abstand auf dem Fadenkreuz. Aufgrund der ersten Brennebene (FFP) gilt dies für alle Vergrößerungen.



## ZÖLLIG

1 MOA = 1.047in @ 100yds. Für unterschiedliche Entfernungen ändern sich diese MOA-Lücke:  
50yds = 0.5in, 100yds = 1.0in, 200yds = 2.1in, 300yds = 3.1in.

## METRISCH

1 MOA = 29mm @ 100m. Für unterschiedliche Entfernungen ändern sich diese MOA-Lücke:  
50m = 15mm, 100m = 29mm, 200m = 59mm, 300m = 87mm.

## PRÉSENTATION GÉNÉRALE

Le réticule FFP MOA Pro Ext a été développé spécifiquement pour les systèmes optiques à premier plan focal et il utilise les principes communs à tous les réticules à espacement MOA. Avec un marquage espacé tous les MOA s'étendant jusqu'à 60 MOA de correction en hauteur, le réticule FFP MOA Pro Ext est un réticule polyvalent fournissant des points de visée, même pour des distances extrêmes.

Les mesures du réticule sont espacées tous les MOA, et elles offrent des segments 1 MOA et 0,5 MOA pour la télémétrie. Toutes les quatrième, l'espacement MOA sur la section inférieure est numéroté afin d'assurer l'acquisition rapide et facile de la cible et pour faciliter la référence.





Les montants extérieurs épais sont creux pour être visibles avec tous les grossissements, sans trop bloquer le champ de vision.

## SUBTENSIONS DE RETICULES

### CONFIGURATION MOA-MOA

Le réticule marqué tous les MOA et les tourelles  $\frac{1}{4}$  MOA facilitent le réglage du point de visée. 4 clics sur la tourelle correspondront exactement à un espacement de 1 MOA sur le réticule. Grâce au réticule FFP, ceci est vrai pour tous les grossissements.

### IMPERIAL (Unités anglo-saxonnes)

1 MOA = 1.047in @ 100yds. À des distances différentes, cet intervalle MOA variera.  
50yds = 0.5in, 100yds = 1.0in, 200yds = 2.1in, 300yds = 3.1in.

### METRIC (Unités métriques)

1 MOA = 29 mm @ 100 m. À des distances différentes, cet intervalle MOA variera.  
50m = 15mm, 100m = 29mm, 200m = 59mm, 300m = 87mm.



## RESUMEN

La retícula FFP MOA Pro Ext se ha diseñado de forma específica para sistemas ópticos de primer plano focal tomando como base los principios comunes a las retículas espaciadas por MOA. Con marcas espaciadas cada medio MOA, que llegan hasta los 60 MOA desde el punto de compensación, la FFP MOA Pro Ext es una retícula versátil que ofrece puntos de mira para las distancias más extremas.

Todas las mediciones de la retícula están espaciadas a un MOA y ofrecen horquillas de telemetría a 1 MOA y a 0,5 MOA. Uno de cada cuarto espaciados de MOA de la parte inferior están numerado para garantizar una adquisición de objetivo fácil y rápida y una referencia sencilla.

Los postes exteriores gruesos son huecos para garantizar que se puedan ver con todos los aumentos, sin bloquear en exceso la vista.

## COBERTURA DE LA RETÍCULA

### CONFIGURACIÓN MOA-MOA

Las retículas espaciadas en MOA y las torretas  $\frac{1}{4}$  MOA ofrecen un ajuste sencillo del punto de mira. 4 clics de la torreta equivalen exactamente a un espaciado de 1 MOA en la retícula. Dado que se trata de un sistema de primer plano focal, esto es aplicable a cualquier aumento.



## SISTEMA IMPERIAL

1 MOA = 1.047 pulgadas @ 100 yardas. Estos espaciados MOA van cambiando según el rango:  
50 yardas = 0.5 pulgadas, 100 yardas = 1.0 pulgadas, 200 yardas = 2.1 pulgadas,  
300 yardas = 3.1 pulgadas.

## SISTEMA MÉTRICO

1 MOA = 29mm @ 100m. Estos espaciados MOA van cambiando según el rango:  
50m = 15mm, 100m = 29mm, 200m = 59mm, 300m = 87mm.



## INTRODUZIONE

Il reticolo FFP MOA Pro Ext è stato realizzato appositamente per le ottiche sul primo piano focale, e si basa sui principi comuni dei reticoli con spaziatura in MOA. Con metà dei contrassegni MOA spazati che si estendono a 60 MOA in brandeggio, il reticolo FFP MOA Pro Ext risulta altamente versatile e fornisce punti di mira anche alle distanze più estreme.

Tutte le misurazioni del reticolo utilizzano la spaziatura in MOA e offrono contrassegni di 1 MOA e 0,5 MOA per il calcolo delle distanze. La sezione inferiore mostra un numero ogni il quarto spaziature in MOA, per un'acquisizione rapida e semplice del bersaglio e per facile riferimento.



Le spesse radici esterne sono cave, per risultare visibili a tutti gli ingrandimenti senza bloccare eccessivamente la visuale.

## SOTTOTENSIONI DEL RETICOLO

### IMPOSTAZIONE MOA/MOA

Con il reticolo con distanziatori MOA e torrette  $\frac{1}{4}$  MOA, regolare il punto di mira è facile. 4 scatti sulla torretta equivalgono esattamente a una distanza di 1 MOA sul reticolo. Grazie al primo piano focale (FFP), questo vale a tutti i livelli di ingrandimento



## SISTEMA IMPERIALE BRITANNICO

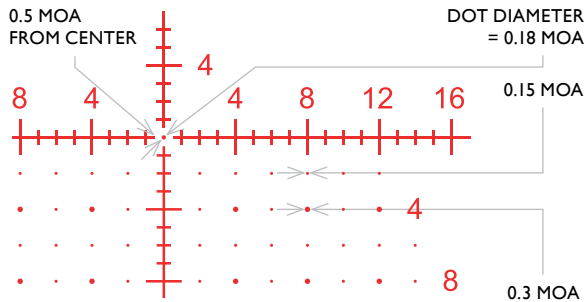
1 MOA = 1.047 pollici @ 100 iarde. A distanze diverse, questo spazio MOA cambierà:  
50 iarde = 0.5 pollici, 100 iarde = 1.0 pollici, 200 iarde = 2.1 pollici, 300 iarde = 3.1 pollici.

## SISTEMA METRICO DECIMALE

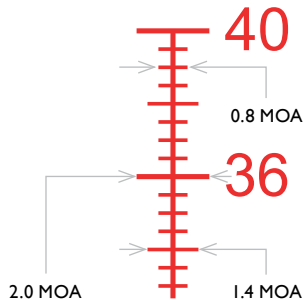
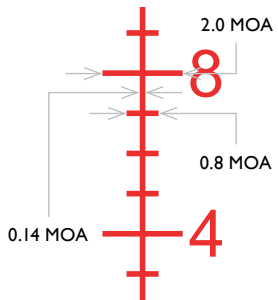
1 MOA = 29mm @ 100m. A distanze diverse, questo spazio MOA cambierà:  
50m = 15mm, 100m = 29mm, 200m = 59mm, 300m = 87mm.



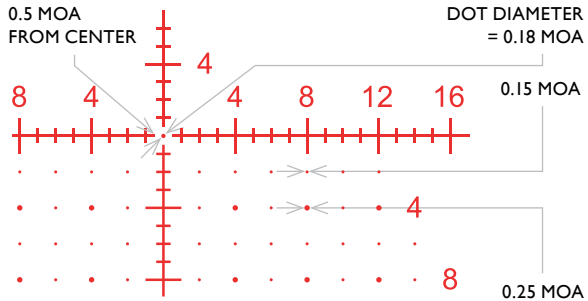
FFP MOA Pro Ext. (18x)



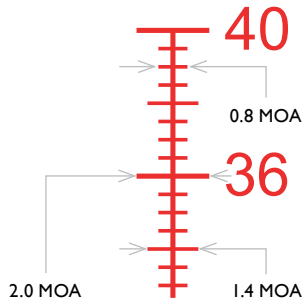
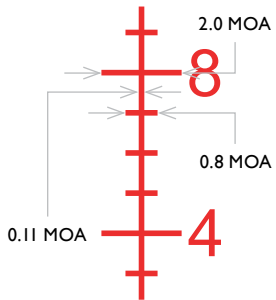
FFP MOA Pro Ext. (18x)



FFP MOA Pro Ext. (30x)

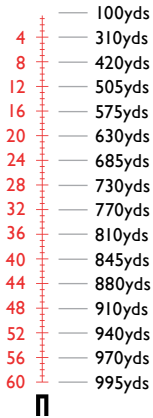


FFP MOA Pro Ext. (30x)



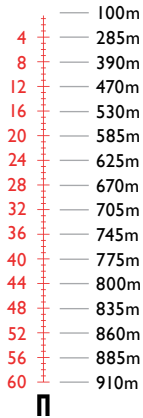
**.223 REM CENTERFIRE**

Muzzle Velocity: 3240fps  
Ballistic Coefficient: 0.2135  
Zero Range: 100yds



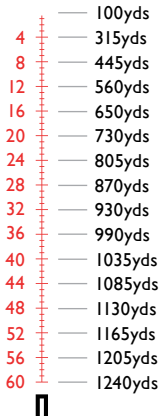
**.223 REM CENTERFIRE**

Muzzle Velocity: 988m/s  
Ballistic Coefficient: 0.2135  
Zero Range: 100m



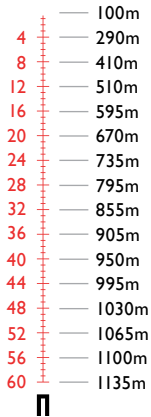
**.243 WIN CENTERFIRE**

Muzzle Velocity: 2960fps  
Ballistic Coefficient: 0.3691  
Zero Range: 100yds



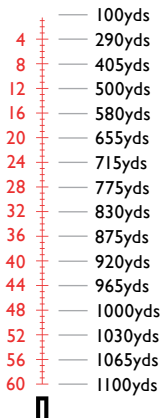
**.243 WIN CENTERFIRE**

Muzzle Velocity: 902m/s  
Ballistic Coefficient: 0.3691  
Zero Range: 100m



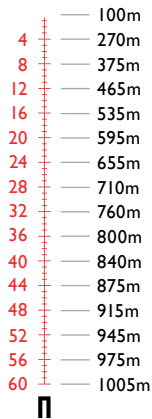
**.308 WIN CENTERFIRE**

Muzzle Velocity: 2820fps  
Ballistic Coefficient: 0.3208  
Zero Range: 100yds



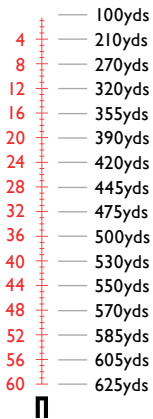
**.308 WIN CENTERFIRE**

Muzzle Velocity: 860m/s  
Ballistic Coefficient: 0.3208  
Zero Range: 100m



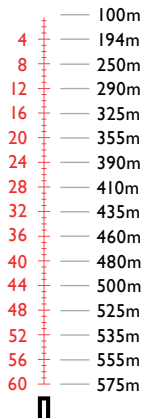
**.17 HMR RIMFIRE**

Muzzle Velocity: 2550fps  
Ballistic Coefficient: 0.1251  
Zero Range: 100yds



**.17 HMR RIMFIRE**

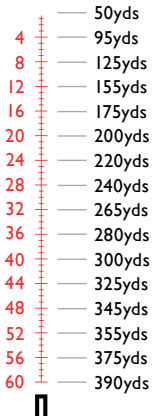
Muzzle Velocity: 777m/s  
Ballistic Coefficient: 0.1251  
Zero Range: 100m





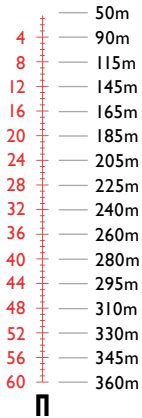
**.22 LR HV RIMFIRE**

Muzzle Velocity: 1260fps  
Ballistic Coefficient: 0.1300  
Zero Range: 50yds



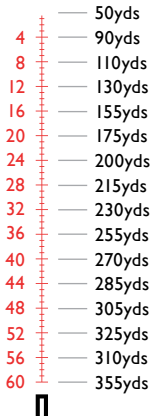
**.22 LR HV RIMFIRE**

Muzzle Velocity: 384m/s  
Ballistic Coefficient: 0.1300  
Zero Range: 50m



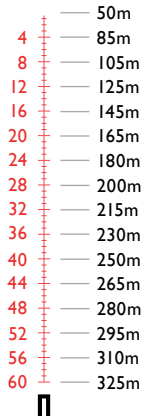
**.22 LR SUB RIMFIRE**

Muzzle Velocity: 1057fps  
Ballistic Coefficient: 0.1300  
Zero Range: 50yds



**.22 LR SUB RIMFIRE**

Muzzle Velocity: 322m/s  
Ballistic Coefficient: 0.1300  
Zero Range: 50m

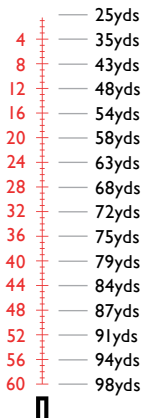


.22 AIRGUN (12ft/lb)

Muzzle Velocity: 560fps

Ballistic Coefficient: 0.0183

Zero Range: 25yds

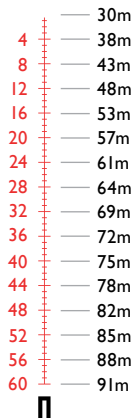


.22 AIRGUN (16 Joules)

Muzzle Velocity: 171m/s

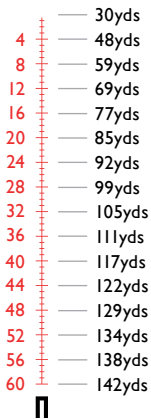
Ballistic Coefficient: 0.0183

Zero Range: 30m



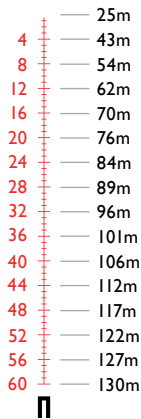
**.177 AIRGUN (12ft/lb)**

Muzzle Velocity: 786fps  
Ballistic Coefficient: 0.0193  
Zero Range: 30yds



**.177 AIRGUN (16 Joules)**

Muzzle Velocity: 240m/s  
Ballistic Coefficient: 0.0193  
Zero Range: 25m





VISION ACCOMPLISHED

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 Born in the UK