

Scope Specs Table

For boscoebrea

for 100y Target Shooting

c. 25x Top Magni. | Under 30oz

Good Glass | Under \$1000 (\$600)

**Bottom Magni. = 6x or lower
with 10y-Side Parallax
with Exposed Turrets
with Holdoff Reticle**

January 3, 2025 | Matthias aka JungleShooter | Airgunner@zohomail.com

Abbreviations in the Table → Cf. end of the document!

				Magni. → FoV		→ Eye Box			Exposed Turrets				Holdoff Reticle				Dimensions				
in 2019, some 2020, 2021, 2022, 2023, 2024	Price: Low; Mfctr.'s in US \$	Warranty	Springer-Rated	Magnification	FoV = Field of View @ 100y (ft)	Obj. ∅ Dia (mm)	Exit Pupil (mm)	IR Y, N	Max. Elev. Adjmt. (MOA)	1 Click =	1 T. Turn =	Turrets in:	Reticle in:	Thick O/S Posts? FFP — SFP Calibration at ?	Enough Dots, No's, CD CenterDot	Line thickness	Tube Dia-meter	Weight (oz) (g)	Length (inch) (cm)	Misc. + Reviewers' "Comments"	
Brand: Series	Part No.			SFP Scopes																	
Hawke: Frontier SF • Ret. Mil Pro	No. 18140 529; 699	Life, R. Own	Yes!	5-25x	22.5-4.5	50	10-2.0	Y	37	0.1 mil	8 mil	MIL =	=MIL	SFP 20x	D, N, Grid	?	1"	22.2 628g	14.4 36c	3 Screws to rezero; Locking Turrets; 0-Stop	
Hawke: Sidewinder 30 SF • 20x Half Mil Ret.	No. 47260 499; 659	Life, R. Own	Yes	6-24x	21 ³ -5.4	56	9-2.3	Y	70	0.1 mil	6 mil	MIL =	= MIL	SFP 20x	D, Grid	?	30	27.3 775g	14.3" 36c	T Turn Counter	
Vector: Continental X6 30mm • Tactical Lock No. SCOL-33T • Tactical ARI No. SCOL-54 • Tactical No. SCOL-43	?; 529	Life, NoRec.		4-24x	31 ¹ -5 ²	50	9-2.1	Y	67	0.1 mil	8 mil	MIL =	=MIL	SFP 20x	D, N, Grid, CD		30	23.6 670g	14.6" 37c	Parallax 15y; 3 Screws to rezero • Locking Turrets • 0-Stop; Large Turrets • 0-Stop; Large Turrets; Color FDE	
Hawke: Frontier 30 SF • Mil Pro Ret.	No. 18431 699; 899	Life, R. Own	Yes	4-24x	28 ² -4.8	50	12-2.1	Y	73	0.1 mil	8 mil	MIL =	=MIL	SFP 20x	D, N, Grid	?	30	23.4 662g	14.5" 37c	Parallax 15y; 3 screws to rezero; Locking Turrets; 0-Stop	
Maven: RS.5 Only SHR-MIL Ret.!	1400; 1400	Life	?	4-24x	27.8-4.6	50	8 ⁵ -2.1	Y	100	0.1 mil	10 mil	MIL =	=MIL	SFP 24x	• 5mi Elev., CD	?	30	25.5 723g	14.4" 37c	0-Stop; Windage Capped	

				Magni. → FoV	→ Eye Box			Exposed Turrets				Holdoff Reticle				Dimensions				
in 2019, some 2020, 2021, 2022, 2023, 2024 Brand: Series Part No.	Price: Low; Mfctr.'s in US \$	War-ranty	Springer-Rated	Magni-fication	FoV = Field of View @ 100y (ft)	Obj. ∅ Dia (mm)	Exit Pupil (mm)	IR Y, N	Max. Elev. Adj. (MOA)	1 Click =	1 T. Turn =	Turrets in:	Reticle in:	Thick O/S Posts? FFP — SFP Calibration at ?	Enough Dots, No's, CD CenterDot	Line thick-ness	Tube Dia-meter	Weight (oz) (g)	Length (inch) (cm)	Misc. + Reviewers' "Comments"
Trijicon: Tenmile •Red Dot No. 1M42450-C-3000007 •Green Dot No. 1M42450-C-3000008	900, 1200, 1890	Life	?	4-24x	28.5-4.7	50	8-2.0	Y	100 70 Wind-age	0.1 mil	8 mil	MIL =	=MIL	SFP 24x	D	.06 ^{mi} .20 ^{mo}	30	25.7 729g	14.5" 37c	0-Stop; Turn Counter; Windage Capped
FFP Scopes																				
FFP Scopes – without Thick Outside Posts in the Reticle																				
Hawke: Airmax 30 FFP SF No. 13352	496; 589	Life, R. 0.Own	Yes!	6-24x	21 ⁰ -5 ²	50	8-2.1	Y	57	0.1 mil	6 mil	MIL =	=MIL	FFP No Thick Posts	D	?	30	27.0 765g	14.9" 38c	Capped Turrets! BUT Clickable
Hawke: Vantage 30 WA FFP No. 14304	424; 589	Life, R. 0.Own	<12 FPE	6-24x	21 ⁰ -5 ²	50	8-2.1	Y	60	0.1il	6 mil	MIL =	=MIL	FFP No Thick Posts	D	?	30	26.6 755g	14.9" 38c	
Konus (Italy): Pro F30 No. 7297	590; ?	Life		6-24x	16-4	52	8-2.2	Y	60	0.1 mil	5 mil	MIL =	=MIL	FFP ¹² No Thick Posts	D	.04 ^{mi} .05 ^{OR?} .14 ^{mo}	30	28.6" 810g	16.4" 42c	Cant Bubble Large Parallax T.
Hawke: Sidewinder 30 FFP •FFP Half Mil Ret. No. 17460 •FFP MOA Ret. No. 17461	629, 799; 670, 799	Life, R. 0.Own	Yes	6-24x	21 ⁻³ -5.4	56	9-2.3	Y	70	0.1mi 1/4mo	6 mil 15 mo	MIL =	= MIL	FFP No Thick Posts	D, Grid	?	30	27.3 775g	14.3" 36c	T Turn Counter
Hawke: Frontier 30 FFP •Mil Pro 25xRet. No. 18540	849; 1049	Life, R. 0.Own	Yes	5-25x	22.5-4.5	56	11-2.2	Y	65	0.1 mil	8 mil	MIL =	=MIL	FFP ¹⁴ No Thick Posts	D, N, Grid	?	30	24.6 698g	14.4" 37c	Parallax 15y 3 Screws to rezero; Locking Turrets; 0-Stop
FFP Scopes – with Thick Outside Posts in the Reticle																				
Aztec: Emerald FFP	540; —	Life	Yes!	5.5-25x	19 ¹ -4 ²	50	?	Y	c. 40?	1/4 moa	15 moa	MOA =	=MOA	FFP ¹⁹ Thick O/S Posts	D, N mini Grid	?	30	25.4 720g	14.4 37c	"Low DoF"
Optisan: EVX, Gen. 2: 6-24x50 F1 •w/ IR No. 37583 •w/o IR No. 37534	?; 560	Life		6-24x	19.4-4.9	50	8-2.1	Ei th er	50	0.1 mil	4.8 mil	MIL =	=MIL	FFP ²¹ Semi Thick Posts	D, (N)	?	30	26.5 751g	14.8" 38c	Locking Turrets
Riton (US): 3 Conquer	500; 587	Life, NoRec	Yes	6-24x	17-4	50	8-2.1	Y	70	0.1 mil	6 mil	MIL =	=MIL	FFP Thick O/S Posts	D, N, Grid	.045 ^{mi} .15 ^{mo}	30	27.1 768g	14.1" 36c	0-Stop
Vortex: Diamondback Tactical •MIL Ret. No. DBK-10029 •MOA Ret. No. DBK-10028	400, 300; 500	Life		6-24x	18 ⁰ -4.5	50	8-2.1 calculated	NO	65	0.1mi 1/4mo	6 mi 15 mo	MIL =	=MIL	FFP ⁸ Thick O/S Posts	D, N, Grid	.03 ^{mi} .12 ^{mo}	30	24.6 697g	14.3" 36c	"Tracks" "small Eyebow"
Element: Helix FFP •MIL Ret. APR-2D MRAD •MOA Ret. APR-2D MOA	480; —	Life, NoRec.		6-24x	18 ⁻³ -4.6	50	9-2.2	NO	65	0.1 mi 1/4 mo	6 mi 15 mo	MIL =	=MIL	FFP ³⁰ Thick O/S Posts	D, N, Grid	?	30	26.0 737g	14.3" 36c	Toolless Re-zero; 0-Stop; Turn Counter
Bushnell: Match Pro •w/ IR No. MP6245BF8 •w/o IR No. MP6245BF2	—; 500, 450	Life NoRec.		6-24x	18-4	50	?	Ei th er	65	0.1 mil	10 mil	MIL =	=MIL	FFP ⁴⁴ Thick O/S Posts	D, N, Grid	.05 ^{mi} .17 ^{mo}	30	29.8 845g	14.0" 36c	Locking Turrets; Toolless Re-zero
Athlon: Heras SPR FFP •APRS9 MIL Ret. No. 214513 •APLR9 MOA Ret. No. 214512	560; 700	Life, NoRec.		6-24x	19.9-5 ¹	56	?	Y	70	0.1mi 1/4mo	10mi 25 mo	MIL =	=MIL	FFP ⁶ Thick O/S Posts	D, N, Grid	.03 ^{mi} .11 ^{mo} .03 ^{mi} .11 ^{mo}	30	32.3 916g	14.4" 37c	0-Stop; Turn Counter; Locking Windage Turret
Athlon: Midas TAC •MIL APRS2 Ret. No. 213075 •MIL APRS3 Ret. No. 213077 •MOA APLR4 Ret. No. 213076	•630 756 •670 837 •670 837	Life, NoRec.		6-24x	17.8-4.6	50	11-1.8	Y	85 50 Wind-age	0.1mi 1/4mo	10 mi 25 mo	MIL =	=MIL	FFP ⁵ Thick O/S Posts	D, N, Grid	.03 ^{mi} .10 ^{mo} .036 ^{mi} .12 ^{mo}	30	26.3 746g	14.6" 37c	0-Stop T Turn Counter Windage Capped
Arken (US): EPL4 •MIL Ret. No. EPL4-6241VHR •MOA Ret. No. EPL4-6240VHR	400; 440	Life		6-24x	18.6-4.7	50	?	Y	68 40 Wind-age	0.1mi 1/4mo	8 mi 20 mo	MIL =	=MIL	FFP ⁴² Thick O/S Posts	D, N, CD	.03 ^{mi} .10 ^{mo}	30	23.7 672g	13.8" 35c	0-Stop, 3 screws to rezero, T Turn Counter

				Magni. → FoV	→ Eye Box	Exposed Turrets				Holdoff Reticle				Dimensions						
in 2019, some 2020, 2021, 2022, 2023, 2024	Price: Low; Mfctr.'s in US \$	Warranty	Springer-Rated	Magnification	FoV = Field of View @ 100y (ft)	Obj. Dia (mm)	Exit Pupil (mm)	IR Y, N	Max. Elev. Adj. (MOA)	1 Click =	1 T. Turn =	Turrets in:	Reticle in:	Thick O/S Posts? FFP — SFP Calibration at ?	Enough Dots, No's, CD CenterDot	Line thickness	Tube Dia-meter	Weight (oz) (g)	Length (inch) (cm)	Misc. + Reviewers' "Comments"
Brand: Series Part No.																				
Vortex: Strike Eagle • MIL Ret. No. SE-52504 • MOA Ret. No. SE-52503 Some Falls: https://www.youtube.com/watch?v=u06IY4xpQs	700; 800	Life		5-25x	24° - 5.2	56	?	Y no off	110 78 Windage	0.1mi 1/4mo	10 mi	MIL =	=MIL	FFP Thick O/S Posts	D, N, Grid	.03mi .11mo	34	31.8 902g	15.5"	Parallax 15y 0-Stop with 47moa Limit Locking Turrets
Vector: Continental 34mm • No. SCFF-29 VCT (typical grid) • No. SCFF-40 MBR (w/ 25mil elev. holds and person-finding diagram) • No. SCFF-39 MBR FDE (same ret. as SCFF-40) Scope Color is FDE.	680; 850	Life, NoRec.		4-24x	30.6-5°	56	8-2.3	Y	115	0.1 mil	10 mil	MIL =	=MIL	FFP ²⁶ Thick O/S Posts	D, N, Grid, CD	.04mi .14mo	34	30.0 850g	14.3" 36c	0-Stop with 70moa Limit Locking Turrets mech. T-Counter FDE Color = Flat Dark Earth
in 2019, some 2020, 2021	Price: Low ; Mfctr.'s US \$	Warranty	Springer-Rated	Magnification	FoV = Field of View @ 100y (ft)	Obj. Dia (mm)	Exit Pupil (mm)	IR Y, N	Max. Elev. Adj. (MOA)	1 Click =	1 T. Turn =	Turrets in:	Reticle in:	Thick O/S Posts? FFP — SFP Calibrated at ?	Enough Dots, No's, CD CenterDot	Line Thickness	Tube Dia-meter	Weight (oz) (g)	Length (inch) (cm)	Misc. + Reviewers' "Comments"
Brand: Series Part No.				Magni. → FoV	→ Eye Box	Exposed Turrets				Holdoff Reticle				Dimensions						

Notes About Different Scopes – N1, N2, N3, etc.:

- N1:** Sightron ExacTrack turret adjustment system: Though the turrets of the indicated scope are capped, they are made for dialing, because they use the same ExacTrack turret adjustment system as the uncapped scopes of the following series (as of the 2012 and 2022 catalog): S-TAC | SVIII | S6 | SV | SIII | SII | SII Big Sky
→ Dialing Turrets (capped w/ ^{N1})
- N2:** This has been confirmed by various shooters on Snipers Hide. Riton, upon insistant request sent them a turret without 0-stop in order to be able to use the full elevation adjustment. It seems that a bit of grinding can achieve the same without asking Riton.
<https://www.snipershide.com/shooting/threads/riton-x7-question.7169618/#post-10871354>
- N3:** Not daylight bright.
Review EPIK ARMS, @ 10:42min: <https://www.youtube.com/watch?v=JhR4kNjZJXg>
- N4:** This scope has “Gen. 2” in its name, as it belongs to the second generation of its series – but is *not the second iteration of this particular scope* with this particular magnification range and objective diameter.

Reticles: Footnotes: Links for Views or Videos of FFP Reticles at Different Magnifications

Note on more detailed reticle diagrams:

- Athlon: Each scope on their homepage includes detailed diagrams: <https://athlonoptics.com>
- Discovery: many scopes reticles are listed here: <https://discoveryoptics.co.uk/reticles/>

¹ Discovery: HD/34mm: 4-24x50 FFP: Reticle at all magnifications: @ 4:56min:

<https://www.youtube.com/watch?v=DerSb0Y-d34>

² Vector: Taurus: 5-30x56 FFP: Reticle at all magnifications: @ 10:04min:

<https://www.youtube.com/watch?v=xV6m6OUR33c>

Reticle at all magnifications, in front of a favorable background:

<https://www.youtube.com/watch?v=pQ82hBoSwdw>

³ Discovery: HD/34mm: 5-30x56 FFP:

Reticle at all magnifications, in front of a non-favorable background: @ 1:51min:

<https://www.youtube.com/watch?v=b4EF9OMRv2M>

Reticle at all magnifications: @ 29.55min:

<https://www.youtube.com/watch?v=PQSVqejEKE>

Illuminated Reticle at all magnifications, but no *non-illuminated* view: @ 1:23min:

<https://www.youtube.com/watch?v=31y22fzGb1M>

⁴ Discovery: HD: 5-25x50 FFP: *Illuminated* Reticle at all magnifications, but no *non-illuminated* view: @ 4:29

<https://www.youtube.com/watch?v=SJZNGszt0E4>

non-illuminated view: @ 2.35min: <https://www.youtube.com/watch?v=zR9mUevdVX0>

⁵ Athlon: Midas TAC: Reticle at min. and max. magnification:

- MIL: APRS2 Reticle: <https://athlonoptics.com/product/midas-tac-6-24x50-aprs2-ffp-mil-scope/>
- MIL Grid: APRS3 Reticle: <https://athlonoptics.com/product/midas-tac-6-24x50-aprs3-ffp-mil-scope/>
- MOA: APLR4 Reticle: <https://athlonoptics.com/product/midas-tac-6-24x50-aplr4-ffp-moa-scope/>

⁶ Athlon: Heras SPR FFP: Reticle at min. and max. magnifications:

- APRS9 MIL reticle: <https://athlonoptics.com/product/heras-spr-6-24x56-aprs9-ffp-ir-mil/>
- APLR9 MOA reticle: <https://athlonoptics.com/product/heras-spr-6-24x56-aplr9-ffp-ir-moa/>

⁷ Discovery: ED: 6-24x50 FFP: Reticle at all magnifications: @ 6.44min:

<https://www.youtube.com/watch?v=1Ph66qud50M>

⁸ Vortex: Diamondback: 6-24x50 FFP: Reticle at all magnifications: @ 6.55min:

<https://www.youtube.com/watch?v=weHwC3amwfE>

⁹ Blackhound: Genesis: 6-24x50 FFP: Reticle at min. and max. magnification:

- Alpha MIL reticle: Owner's Manual: <https://www.blackhoundoptics.com/product/genesis-6-24x50-ffp-mil/>
- Ascent MOA reticle: <https://www.blackhoundoptics.com/product/genesis-6-24x50-ffp-moa/>

¹⁰ Hawke: Sidewinder: 30 SF FFP: 6-24x56 [No. 17420]: Reticle at min. and max. magnification:

<https://us.hawkeoptics.com/sidewinder-30-sf-ffp-riflescopes.html>

¹¹ Falcon: S18i 3-18x50 FFP: Reticle at all magnifications: @ 2:06min:

<https://www.youtube.com/watch?v=RGmnOFp2fUU>

¹² Falcon: F30 6-24x50 FFP: Reticle at 6x magnification (24x at the mfctr's webpage): @ 5:33min:

<https://www.youtube.com/watch?v=swZJkEM76hw>

¹³ Athlon: Argos BTR Gen. 1: 6-24x50 FFP: Reticle at min. and max. magnifications:

- APMR MIL reticle: <https://athlonoptics.com/product/rifle-scope-argos-6-24x50/>
- APLR2 MOA reticle: <https://athlonoptics.com/product/rifle-scopes-argos-6-24x50-atmr-ffp-ir-moa/>

¹⁴ Hawke: Frontier 30 FFP: 5-25x56, Mil Pro 25x Reticle [No. 18540]: Reticle at 25x magnification: @ 5:25min

<https://www.youtube.com/watch?v=Gcud4IGjOA>

Cf. also footnote ³⁶ for the same reticle in an FFP scope, and both reticles have to cover a 5-fold magnification range and thus will be similar at the bottom end of the magnification and the top end.

¹⁵ Vector: Counterpunch: 6-25x56 FFP: Reticle at all magnifications:

<https://www.youtube.com/watch?v=E9qIPzpxvTQ>

¹⁶ Vector: Marksman: 6-24x50 FFP: Reticle at all magnifications: @ 6:33min:

<https://www.youtube.com/watch?v=BnLJLvXVSol>

and @ 4.47min: <https://www.youtube.com/watch?v=nepYkyfjpng>

¹⁷ Vector: Tourex: 6-24x50 FFP: Reticle at various magnifications: @ 2.04min:

https://www.youtube.com/watch?v=zD-HN8uU_fo

¹⁸ MTC: King Cobra F1: 6-24x50 FFP: Reticle at all magnifications: @ 1:03min:

<https://www.youtube.com/watch?v=4RjMgVRqTM4>

¹⁹ Aztec: Emerald: 5.5-25x50 FFP: Reticle at all magnifications: @ 4.21min:

<https://www.youtube.com/watch?v=8GwntsJAUtU>

²⁰ ACME Machine: 6-24x50 FFP: Reticle at 6x, 14x, and 24x magnifications: @ 1:55min:

<https://www.youtube.com/watch?v=LCI2SM7G2t0>

Reticle at 6x and 24x, MOA:

<https://www.acmemachine.com/optics-sights/6-24x50mm-first-focal-plane-tactical-rifle-scope-tr-mil-reticle/?variant=48625453254>

²¹ Optisan: EVX: 6-24x50 FFP F1: Reticle at 6x, 15x, and 24x magnifications: @ 12:33min:

<https://www.youtube.com/watch?v=RuXmjOLxwNw>

²² Swampfox: Kentucky Long: 5-30x56 FFP: MOA Reticle: Reticle at all magnification: @ 3:16min:

<https://www.youtube.com/watch?v=riYsEFSXYyw>

²³ Vector: Taurus: 4-24x50 FFP: Reticle at min. and max. magnification: @ 0:37min (play at slowest playback speed, the min. magnification will be shown only for a *split second* – but shows how thin the outside post really are, they are not really “medium”:

<https://www.youtube.com/watch?v=rZRVuR5-398>

²⁴ Discovery: HD: 4-20x50 SFIR FFP: Reticle at all magnifications: @ 2:42min:

https://www.youtube.com/watch?v=C1qBt7yg_ek

²⁵ Vector: Continental 34mm: 4-24x56 FFP: Reticle at all magnifications: @ 1:27min:

<https://www.youtube.com/watch?v=ceLSb2gkmbk>

<https://www.vectoroptics.com/data/uploads/2020/06/22/1592831142.jpg>

- ²⁶ Vector: Continental 34mm: 5-30x56 FFP: Reticle at all magnifications: @ 2:23min:
<https://www.youtube.com/watch?v=S97yza3Fph4>
Reticle at min. and max. magnification:
<https://www.vectoroptics.com/data/uploads/2020/06/22/1592831200.jpg>
- ²⁷ Nikko: Diamond FFP 30: 6-24x50: *Skeleton HMD Reticle* (No. NSFFP62450HMD) (the PRR Reticle is different and does have thick outside posts!): Reticle at different magnifications: 6x: @ 13:44min | 16x: @ 14:14min | 24x: 14:31min:
https://www.youtube.com/watch?v=VOy2IWN7N_c
- ²⁸ Nikko: Diamond FFP: Nikko's *Skeleton HMD* reticle is used in several scopes and it does not have thick outside posts; the double lines used are just as thin as the rest of the reticle. Here is an example of the *Skeleton HMD* reticle, in the Diamond FFP 30mm 6-24x50: Reticle at different magnifications: 6x: @ 13:44min | 16x: @ 14:14min | 24x: 14:31min:
https://www.youtube.com/watch?v=VOy2IWN7N_c
- ²⁹ Element: Titan: 5-25x56:
MIL Ret. APR-1C: Likely from 5x–25x – recommended to play it with slow motion: @ 3:46min
<https://www.youtube.com/watch?v=eSGzTPkRxZY>
MIL Ret. APR-1C + APR-1D: @ 5:02min:
<https://www.youtube.com/watch?v=2CmHU4lhqQ>
MIL Ret. APR-1D: @ 6:50min:
<https://www.youtube.com/watch?v=0-C6DhTkDgw>
MOA Ret. EHR-1C + EHR-1D: @ 6:31min:
<https://www.youtube.com/watch?v=2CmHU4lhqQ>
Manual of all four reticles, at 5x and 25x:
<https://element-optics.com/wp-content/uploads/2020/10/5x7-TITAN-MANUAL-Amended.pdf>
Difference between Titan and Nexus (more expensive – because of lighter and smaller, with higher quality)
<https://www.youtube.com/watch?v=W4qdh7-v2mM>
- ³⁰ Element: Helix: 6-24x50 FFP:
APR-2D MRAD: 6x and 24x: @ 1:01min and 1:16:
<https://www.youtube.com/watch?v=DggOXpR2ymY>
APR-2D MOA: Reticle at all magnifications: @ 0:14min
<https://www.youtube.com/watch?v=YeWbkurVV0o>
- ³¹ Athlon: Argos BTR Gen. 2: 6-24x50 FFP: Reticle at min. and max. magnifications:
• APMR MIL reticle: <https://athlonoptics.com/product/argos-btr-gen2-6-24x50-apmr-ffp-ir-mil-copy/>
• APLR2 MOA reticle: <https://athlonoptics.com/product/argos-btr-gen2-6-24x50-atmr-ffp-ir-moa-copy/>
- ³² Hi-Lux: PentaLux: TAC-VF 4-20x50 FFP G2: 20x: @ 0:20min:
https://www.youtube.com/watch?v=NAbX_POUKgc
@ 5:12min:
<https://www.youtube.com/watch?v=dvzUNANmNXs>
- ³³ Swampfox: Kentucky Long: 4-24x50 FFP:
Cf. the other models of this series that have the same six-fold magnification range, resulting in the same ratio of reticle increase/decrease:
Kentucky Long: 5-30x56 FFP: MOA Reticle: Reticle at all magnification: @ 3:16min:
<https://www.youtube.com/watch?v=riYsEFSXYyw>
And also: Swampfox: Kentucky Long: 2-12x44 FFP: MOA: Reticle at 2x and at 12x(?):
<https://images-na.ssl-images-amazon.com/images/I/71%2B5YMUAXfL.AC.SL1500.jpg>
<https://images-na.ssl-images-amazon.com/images/I/71aX%2BZ5aDFL.AC.SL1500.jpg>
- ³⁴ Swampfox: Warhawk: 5-25x56 FFP: MOA Reticle: at 5x: @ 1:04min (very briefly, use slo-mo, or pause it):
<https://www.youtube.com/watch?v=fFh5jleVgxE>
Cf. also the same reticle in the Kentucky Long models (several videos available; however the Warhawk has only a five-fold magnification range, as opposed to the Kentucky Long's six-fold, which means the reticle will increase/decrease 17% less).
- ³⁵ Shepherd: BRS: 5-25x56 FFP: Reticle at min. and max. magnifications:
BRS-MIL Ret.: <https://shepherdsopes.com/wp-content/uploads/2020/06/BRS-MIL-5-25x.jpg>
Also: <https://shepherdsopes.com/wp-content/uploads/2021/03/BRS-5-25-Instructions.pdf>
BRS-MOA Ret.: [not found yet]
- ³⁶ Hawke: Frontier 30 FFP: 4-20x50, Mil Pro 20x Reticle [No. 18530]: at 4x to 20x: @ 7:55min | And illuminated at night and during daylight: @ 9:09min:

<https://www.youtube.com/watch?v=E9SLP7RiaWg>

- ³⁷ Vortex: Razor HD Gen. II: 6-35x56, EBR-7D Mil Reticle: Reticle at all magnifications: @ 21:39min, and throughout the video, including illumination, and including comparisons to other scopes:

https://www.youtube.com/watch?v=h_KRIbzOMKU

- ³⁸ Hawke: Frontier 34 FFP: 5-30x56, Mil Pro Ext. Reticle [No. 18640]:

Cf. another model of this series that has the same six-fold magnification range, resulting in the same ratio of reticle increase/decrease:

Hawke: Frontier 34 FFP: 3-18x50, Mil Pro Ext. Reticle [No. 18620]: Reticle at all magnifications, illuminated: @ 2:02min:

<https://www.youtube.com/watch?v=3ztkmBiv4lk>

- ³⁹ Riton: 5 Conquer: 5-25x50 FFP, MIL: Reticle at all magnifications: @ 8:52min and more at 12:39min:

<https://www.youtube.com/watch?v=kWvTDIOmMoc>

Reticle subtensions: MIL: <https://www.amazon.com/Riton-Optics-Conquer-5-25x50-MRAD/dp/B082DNFXKB>

Reticle subtensions: MOA: <https://www.amazon.com/Riton-Optics-Conquer-5-25x50-MOA/dp/B082DNVW2S>

- ⁴⁰ Riton: 5 Conquer: 4-28x56 FFP:

Reticle subtensions: MIL: Page 7: <https://ritonoptics.com/wp-content/uploads/2022/04/5-Conquer-4-28x56-Manual-2022.pdf>

Reticle subtensions: MOA: ?

- ⁴¹ Riton: 7 Conquer: 4-32x56 FFP, MIL:

Reticle subtensions: <https://ritonoptics.com/wp-content/uploads/2019/12/7Conquer4-32x56.RitonOptics.ReticleSubtensions.jpg>

or: <https://ritonoptics.com/wp-content/uploads/2022/04/7-Conquer-4-32x56-Manual-2022.pdf>

Reticle at all magnifications, with and without illumination: <https://www.youtube.com/watch?v=tpG7mCpb0v8>

Reticle thickness: The manual and the webpage do not give the thickness of the most basic reticle line, only subtensions and others. I had published in an earlier version of this Scope Specs Table a thickness of 0.02mil. This is wrong. The manual, when enlarged, shows this is the length of a short but both-sided hashline.

<https://ritonoptics.com/wp-content/uploads/2022/04/7-Conquer-4-32x56-Manual-2022.pdf>

Also, the video of the reticles does *not* give the impression that the reticle lines are 3 or 4 times thicker than most other scopes: <https://www.youtube.com/watch?v=tpG7mCpb0v8>

- ⁴² Arken: EPL4: 6-24x50 FFP:

MIL VHR Subtensions:

https://www.arkenopticsusa.com/ipx/w_1920,q_100/https%3A%2F%2Fcdn.sanity.io%2Fimages%2Fu57cw5zd%2Fproduction%2Fdaa6661e721237bec2a01cfd12962abab2540216-4005x4005.png%3Fauto%3Dformat&url=https%3A%2F%2Fcdn.sanity.io%2Fimages%2Fu57cw5zd%2Fproduction%2Fdaa6661e721237bec2a01cfd12962abab2540216-4005x4005.png%3Fauto%3Dformat&w=1920&q=100

MOA VHR Subtensions:

https://www.arkenopticsusa.com/ipx/w_1920,q_100/https%3A%2F%2Fcdn.sanity.io%2Fimages%2Fu57cw5zd%2Fproduction%2F3917883977bc6e2f37f55eab92830f303f99d20d-4005x4005.png%3Fauto%3Dformat&url=https%3A%2F%2Fcdn.sanity.io%2Fimages%2Fu57cw5zd%2Fproduction%2F3917883977bc6e2f37f55eab92830f303f99d20d-4005x4005.png%3Fauto%3Dformat&w=1920&q=100

- ⁴³ Bushnell: Match Pro ED: 5-30x56 FFP MIL:

Subtensions: https://www.bushnell.com/on/demandware.static/-/Library-Sites-HuntShootAccessoriesSharedLibrary/default/dw8dd6d632/productPdfFiles/MP53056DM-DMI_MatchPro_Manual_5LIM_1022_web.pdf

- ⁴⁴ Bushnell: Match Pro: 6-24x50 FFP MIL: Reticle at all magnifications, illuminated:

@ 9:43min: https://youtu.be/XT8v6Uwr_FQ?t=583

also: @ 13:47min: https://youtu.be/XT8v6Uwr_FQ?t=827

- ⁴⁵ Nightforce: NX8: 4-32x50 F1

MIL-C:

Note: The MIL-C reticle is sometimes wrongly depicted in seller webpages as not having thick outside posts.

Reticle at all magnifications: <https://www.youtube.com/watch?v=Sz2n06itBy4>

and also: @ 0:06min: <https://www.youtube.com/watch?v=nu2IE5DBJzo>

MIL-XT:

Important Note: The camera in this video was incorrectly set to automatic exposure. Therefore, the camera when filming a largely dark image (woods) increased the brightness of the image automatically. This

caused the reticle lines *to be washed out* when they are in front of a light colored background (white target). When the scope magnification was increased, the image was less of the dark woods and more of the white target, which caused the camera to adjust the brightness again – this time appropriate to the white target at lower brightness. This can be observed when at 0:13min the reticle lines suddenly are not washed out anymore but become visible very nicely.

Reticle at all magnifications: @ 0:07min: <https://www.youtube.com/watch?v=0P2F3lfapRc>

MOAR F1:

Not found yet.

Subtensions: Note: The reticle subtensions on the Nightforce webpage are probably incorrect because the reticle manual they offer (as of Jan. 2, 2023) gives the subtension measurements only for scopes other than the NX8 4-32x50 F1.

⁴⁶ Falcon: Endura: 3.5-25x56 FFP

MIL: Diagram: <https://www.falconoptics.com/wp-content/uploads/2022/06/B28-Grid-Dot-B2GD-FFP.pdf>

MOA: Reticle at all magnifications: @ 11:30min: <https://youtu.be/MwpYgGiaSDI?t=691>

⁴⁷ Discoveryopt: ED-ELR: 5-40x56 SFIR FFP: at 5x, 15x, and 40x:

http://www.discoveryopt.com/repository/image/3508bf75-9d1f-46a0-9fb0-503e708b2476.jpg_%7Bi%7Dxaf.jpg

⁴⁸ Riton: 7 Conquer: 3-24x56 FFP: Reticle at all magnifications: @ 3:13min:

<https://www.youtube.com/watch?v=LZAgWSQJzt0>

⁴⁹ Apex: Rival: 4-32x56 FFP: Reticle at all magnifications: @ 1:58min:

<https://www.youtube.com/watch?v=3pPJKCqVmXE>

⁵⁰ Sightron: [S8=] SVIII: 4-40x56 FFP: no images found yet beyond the manufacturer's, here:

<https://sightron.com/collections/sviii-series>

However, a shooter on Snipers Hide has described the visibility of different reticle details at varying magnifications, here:

<https://www.snipershide.com/shooting/threads/magnification-whores-check-this-out.7086276/#post-9748119>

⁵¹ Element: Theos: 6-36x56 FFP: Reticle at all magnifications: @ 2:26min:

https://www.youtube.com/watch?v=WgO4wU8_7Es

⁵² Falcon: Endura S40i: 5-40x56i ED FFP: Reticle at 5x and 40x:

<http://www.falconoptics.com/wp-content/uploads/2024/02/B9GDi-Diagram-with-40x-Email-Revised.jpg>

⁵³ Vector: Taurus Gen. 2: 3-24x56 ED FFP: Reticle at 3x and 24x:

<https://www.vectoroptics.com/products/view/id/SCFF-33.html>

⁵⁴ Sun Optics: FFP Variable No. CS41-62450: 6-24x50 FFP: Reticle measurements:

<https://op1.0ps.us/978-550-fffff-no-upscale/opplanet-sun-optics-tactical-hunter-glass-etched-reticle@2x.webp>

Abbreviations in the Table

Green is a good thing... – e.g.: a very good warranty, a shorter size or lighter weight than average for this magnification range, a larger than average elevation adjustment range, a very wide field of view (FoV), or some additional feature (bubble level, a 0-stop, turret turn counter, numbers on the hash lines of the reticle), etc.

Red is less of a good thing... – e.g.: a not so great warranty, a longer size or heavier weight than average, a smaller than average elevation adjustment range, a very narrow field of view (FoV), or some other negative or limiting feature, like: a small exit pupil (reducing the eye box), a min. parallax longer than 10y, a reticle without illumination, capped turrets, an FFP reticle without thick outside posts, or a price higher than the max. price that was set for this scope table), etc.

Purple is something noteworthy that could be either good or bad, depending on the shooting scenario... – e.g.: an objective lens that is exceptionally small or large for its magnification (e.g., a small lens allows less light to enter, and reduces the need to focus to correct parallax errors), or an exceptionally short or long eye relief (affecting the scope mounting location and eye/head placement), etc.

Orange is a caution flag, a marginal feature or characteristic... – e.g.: warranty limitations, a marginal FoV, a smaller objective diameter for (supposedly) less light than average for the magnification range, an uneven number of mils or moas per turret turn (not multiples of 5mil or 10moa), a 0-stop that is limited to a certain max. amount of moa (especially for high magnification scopes 24x and up, this is not a “true 0-stop”), a price so low as to shed doubt on the quality of the scope, etc.

SFP vs. **FFP** = table starts with **SFP** (*second focal plane*) scopes, then *first focal plane* (**FFP**)

Thick O/S Posts [for **FFP**] = thick black outside posts, i.e., 3 or 4 of the crosshairs are thick toward the outside (the posts are not hollow rectangles, but filled in with black), which allows seeing the crosshairs easily even when at low magnification. Some have no thick posts, and some have *semi thick* posts.

10x [or 16x, or another number] [for **SFP**] = the magnification at which the holdoff hash lines or dots have been calibrated, i.e., where 1 moa indicated on the reticle actually is 1.047" in reality at 100 yards

Series and Part No. = the manufacturer's product or parts number; helpful to identify the scope at a seller's page as some scopes are very similar and the seller's description is either misleading or insufficient to identify the scope with certainty; also for shopping for the lowest price it helps to enter the number in the search

Discont. = product has been discontinued (but still could be purchased used)

Warranty Info: **Life** = life time warranty | **5y** = 5 years warranty | **OOwn** = warranty only for the original owner | **Unlmt** = unlimited warranty | **Anyb.** = warranty applies to any owner, anybody (e.g., even if you bought it used) | **NoRec.** = no receipt (proof of purchase) required | **Rec. [or: R.]** = receipt (proof of purchase) required | **30d** = must register the scope within 30 days of purchase

FoV = Field of View (in ft at 100y):

• **FoV @ bottom magnification:**

A large FoV at the bottom end of the magnification range is important for *hurried close range shooting*, as the large FoV helps rapid target acquisition. Note that a wide FoV is not critical for *unhurried shooting*, i.e., shooting on stationary targets (or quarry that isn't skittish and gives the shooter time to set up the shot).

The color coding in the table is based on my very personal, unabashedly subjective estimation: *For my kind of hurried close range shooting* I'd like to have a FoV of at least around 3ft at 10y (1m at 10m) (which translates to around 30ft @100y, as FoV is usually reported at 100y; it is color coded black).

The color coding at the bottom end of the mangification is applied irrespective of the scope's magnification, so naturally 6-24x scopes for example don't usually get a green rating, but orange or red. Note however that there are sometimes huge differences in FoV between scopes with the same magnification range which makes the bottom end magnification an unreliable indicator of FoV when scope shopping.

41ft or more	40-35ft	34-28ft	27-22ft	21-17ft	16ft or less
7.8° or more	7.7-6.7°	6.6-5.3°	5.2-4.1°	4.0-3.2°	3.1° or less

• **FoV @ top magnification:**

Between two scopes with the same top end magnification the one with a larger FoV is preferable, all other things being equal. This is because the larger FoV might allow to see more clues to how the wind is behaving, or allows to see additional quarry, or makes following the quarry easier if it decides to move. The color coding in the table is based on what is typical for this magnification, i.e., what I have observed to be average for this top magnification. Examples: At 16x a FoV of 6.3ft normal, whereas a FoV of **4.7ft** is rather narrow and limited. A FoV of **8.5ft** would be great.

Color Coding for the Evaluation of FoV at the <i>Top End</i> Magnification																																		
Magnification	1							8	9	10	11	12	13	14	15	16	18	20	22	24	26	28	30	32	36	40	44	48	52	56	60	64		
Magnification	1							8								16								32									64	
“times life size”	1x							8x	9x	10	11	12	13	14	15	16	18	20	22	24	26	28	30	32	36	40	44	48	52	56	60	64		
Evaluation of Field of View (FoV): Top End* FoV @ 100y																																		
FoV in ft	from worst to best							ft				ft				ft				ft				ft										
red bold	red/orange gets this evaluation if the value is as indicated or worse							8.5	8	7.5		6			5	4.6	4.2	4.0	3.9		3.7			2.8	2.8									
red								9.5	9	8.5		7			5.8	5.2	4.7	4.5	4.4		4.1			3.2	3.2									
orange								10.5	10	9.5		8			6.5	5.9	5.4	5.2	4.9		4.5			3.6	3.6									
Typical Value		color black							13	12	11		9		8	7.1	6.3	5.9	5.5		4.9			4	4									
green	green gets this evaluation if the value is as indicated or better							15	14	13	12	11	10	9	8.1	7.2	6.7	6.2		5.3			4.1	4.1										
green bold								17.5	17	15.5		13			10.1	9.3	8.5	7.7	7		5.7			4.4	4.4									
Magnification	1							8	9	10	11	12	13	14	15	16	18	20	22	24	26	28	30	32	36	40	44	48	52	56	60	64		

IR = illuminated reticle [Y = yes | **NO**]

Reticle; Ret *D* = “dots” = *enough* dots or hash lines on the crosshairs for holdoffs for elevation and windage

N = “numbers” = the dots or hash lines are numbered for quicker holdoffs

Grid = the reticle is a grid style (“Christmas tree style”): for some shooters and for scope cams it “clutters” the reticle, but it allows for more precise elevation *and* windage holdoffs simultaneously

CD = “center dot” = the crosshairs use a *dot* at the center where the two crosshairs intersect

BDC = bullet drop compensating reticle, meaning that the spacing between the hash lines is uneven and therefore not usable for holdoffs unless shooting the ammo the reticle was calibrated for

Line thickness = Given in both mil and moa for easy comparison. For SFP scopes the line thickness given is only true in relation to the scope image *at the magnification that the reticle has been calibrated*. However, the thickness does not actually change when changing the magnification, only the scope image. For FFP scopes that line thickness in relation to the scope image is always the same, no matter which magnification.

Capped Turrets! BUT Clickable = means that though the turrets are capped, when uncapped they are finger adjustable, the numbers are visible from behind the rifle, and the zero can be reset

Hawke scopes: Careful when purchasing them, new or used. Hawke has the annoying habit of coming out with new scope models but fails to either add the designation “Gen. 2” or to give them a new series name. In addition they have the habit of adding a couple of innocuous letters or numbers to the name of the scope – which mean massive changes in the features or the performance. These letters or numbers are easy to miss for both the buyers and commercial and private sellers. To assure you are getting the scope with the features you are thinking you are getting, check that the manufacturer’s model number is the correct one. The Scope Specs Table notes the numbers for most scope models for that very reason.

Prices

In US dollars

Price Low = lowest *street prices* in US dollars I found in 2019 – and updated according to the list below. An additional extra low *street price* is separated by a *comma* ,

Price Mfctr.’s = manufacturer’s price [it’s the last price in that field, after the semicolon ;]

Prices and/or models updated as follows: 2021-06: Hawke | 2021-07: Shepherd | 2022-02: Alpen | Arken | Riton | Bushnell | 2023-05: Falcon | 2023-06: Trijicon | 2023-07: Discoveryopt, aka Discovery | Primary Arms | 2024-06: Vector (most)