

The VENOM[™] Ballistics Solver (VBS) is the first small arms ballistics solver properly computing the wind's influence on a bullet. VBS was created specifically for small arms weapons ranging from 5.56 mm rounds to 12.7 mm rounds. Computations achieve nearly the accuracy of a full 6DOF using a three degree of freedom (3DOF) modified point mass numerical solver that considers velocity, time of flight, and bullet drop as a function of the round's position downrange until the round reaches the target using the current environmental conditions. VBS fully accounts for Coriolis effects in both the vertical and horizontal direction of fire, spin drift, and aerodynamic jump (the Magnus effect).

VBS contains all standard drag curves, while user can create custom curves for designer rounds. System novel approach to calculating the wind deflection is where it differs significantly from most other solvers, making it an ideal solution for any application where extreme accuracy at long ranges well into the subsonic range is of the utmost importance.

VBS is available as a stand-alone program under Windows or Android OS.



			Range Information			on Data Plots				Target Environs Weapo	n Bullet
			Start Range		10	. 00	Time of Flight	Elevation	C Energy		
				Stop Range		00				Name: Minnesota Cold Low Humidity	Selo
				Increment	ent 100 Generate RC		O Velocity	Windage		· · · · · · · · · · · · · · · · · · ·	_
										V/MUZ: 0.00 (m/s)	
			Rang		Vel(f) V(Me	ich) E	Energy Elev.	Wind	~		
			100		2445 2.1 2251 2.0		2323 +0.00 1968 -0.70	+0.03		WMID: 0.00 (m/s)	
			300	0.421 0.587	2065 1.8	5 1	1658 -1.62	+0.10	=	WMID: (mbs)	
Advanced Bullet Properties			400	0.769	1723 1.5	4 1	1154 -3.95	+0.14+0.18			
Bullet Properties	Ballistic Coeff	ficient Table	600 700	0.969	1428 1.2	8	956 -5.38 792 -7.01	+0.23 +0.28		WTGT: 0.00 (m/s)	
	Mach	BC	800	1.428	1303 1.1 ⁻ 1197 1.0 ⁻	7	660 -8.88 557 -11.02				
		0.175	1000	1 076	1111 0.0		400 _10 40 ght - Range (meters)	40.50		TEMP: 0.00 (C)	
Bullet Diameter (inches) 0.300	2.00	0.475									
		0.475		2.0	110		gire - Hange (meeers)				
Bullet Length (inches) 1.230	1.20			15			in conge (neccis)				
Bullet Length (inches) 1.234 Bullet Mass (grains) 1.7	1.20 0.80	0.475								BARC: 1013.00 (mbar)	
Bullet Length (inches) 1.230 Bullet Mass (grains) 1.77 Ballistic Coefficient (b/in^2) 0.475	1.20 0.80 0.00	0.475		15		_					
Bullet Length (inches) 1.234 Bullet Mass (grains) 17	1.20 0.80 0.00	0.475 0.475 0.000		15 15 10 0.5 0.5						BABD: 1013.00 (mbw)	

Define Custom Bullets







