

VM 25 bullet velocity meters



Example:
Model VM 25 MC

General

Principle of measurement	time over a given distance
Method of sensing	light barriers (LEDs emitting visible light)
Evaluation	microprocessor
Displayed parameter	velocity
Construction	one-piece mobile unit
Models: VM 25 L	distance from the muzzle to the first light barrier: almost none, for air guns only
VM 25 M	distance from the muzzle to the first light barrier: approx. 0.5 m, for fire weapons with short muzzle flash
VM 25 P	distance from the muzzle to the first light barrier: approx. 1 m, for fire weapons with long muzzle flash, shotguns
Special models	possibility to detach the beams easily e. g. for transport (version ...D), wide light barriers (version ...w), light compact unit with integrated pellet catcher (version ...LC iKF, only for air guns), special arrangement for extreme measuring conditions (version ...DV)

Features of operation

The measured velocity is displayed automatically after each shot. When the next shot is fired, the corresponding measured value is automatically displayed.

The unit works independently of its position.

Handling safety

The Deutsche Versuchs- und Prüf-Anstalt für Jagd- und Sportwaffen e. V. (German Institute for Research and Testing of Hunting and Sports Firearms) confirmed, that flying fragments of the projectile or of the light barrier do not endanger the shooting person, if the bullet hits the beams containing the light barriers.

Technical data

Length of measuring path	0.25 m					
Measuring range	10 ... 2000 m/s (special version: 1 ... 2000 m/s)					
Display resolution	up to	150 m/s	0.1 m/s	up to	700 m/s	2.0 m/s
		200 m/s	0.2 m/s		1100 m/s	5.0 m/s
		350 m/s	0.5 m/s		1500 m/s	10.0 m/s
		500 m/s	1.0 m/s		2000 m/s	20.0 m/s
Measuring resolution	in each case better than the display resolution					
Measuring uncertainty	less than 1% of the displayed value +/- 1 display increment					
Display	7-segment LED display, height 14 mm					
Power supply Connection	by included line adapter 115 ... 230 V, 50 ... 60 cps 2 - pole line plug					
Option Connection	additionally or only by DC-DC converter 9 ... 36 V insulated screw terminals, cable of cigarette lighter					
Housing materials	mainly painted steel and anodized light metal					
Weight VM 25 L	approx. 12 kg					
VM 25 M	approx. 15 kg					
VM 25 P	approx. 19 kg					

Calculation and display of statistical parameters in a series of measurements (optional version ...C)

Key symbols	Display / Effect
$\bar{\varnothing}$	Mean value of measurement series
<i>max.</i>	Highest measured value in a series
<i>min.</i>	Lowest measured value in a series
<i>s</i>	Standard deviation
<i>n</i>	Number of stored measured values
<i>C</i>	Cancel the series of measured values

Further key functions: change to display in ft/s, deletion of the last stored measurement value

Standard deviation: $\sigma = \sqrt{(\sum (\text{individual value} - \bar{\varnothing})^2) : n}$

Storage capacity for measured values	max. 500 values In a longer series only the last 500 measured values will be evaluated.
Display resolution for " $\bar{\varnothing}$ " and " <i>s</i> "	up to 999.9 m/s: 0.1 m/s, above that 1.0 m/s

For a general description of all models and accessories please see 10.354 GB.

Not binding. Subject to change without prior notice.

VM 25



Geschwindigkeitsmesser für fliegende Teile.

Beispiel einer Sonderausführung zum Einbau in **sichere Versuchsaufbauten**.

Anwendungsbeispiele:

- Simulation von **Hagelschlag auf Solarelemente**,
- Simulation von **Steinschlag auf lackierte Oberflächen oder Windschutzscheiben**,
- Untersuchung der **Geschosswirkung auf kugelsichere Kleidung, kugelsichere Türen** und andere Schutzvorrichtungen.

Velocity meter for flying objects.

Example of a special design to be integrated into **safe test rigs**.

Examples of application:

- Simulation of **hailstorm on solar cells**,
- simulation of **stone-chipping on coated surfaces or on windscreens**,
- examinations concerning the **effect of projectiles on bulletproof vests, bulletproof doors** and other security equipment.

Weinlich GmbH & Co. KG

Industriestr. 6
D - 68799 Reilingen (near Heidelberg)
Germany

Phone 0 62 05 - 40 25
Fax 0 62 05 - 1 77 44
int'l 49 62 05 -

email info@weinlich.de
Internet <http://www.weinlich.de>

DS 30 / 0512 D GB
techdok\ds\dgb30