VELOREX PDV

PHOTONIC DOPPLER VELOCIMETER

The VeloreX PDV™ is an advanced instrument used for the measurement of the continuous velocity-time profiles of high speed moving objects. It can be used for the determination of various detonation properties of energetic materials as well as for any other tasks where high precision in velocity or displacement measurements are crucial.

The VeloreX PDV is capable of tracking target velocities in the order of kilometers per second with nanosecond time resolution. The measurement procedure is simple and robust with almost no limitations regarding the quality of the target surface.

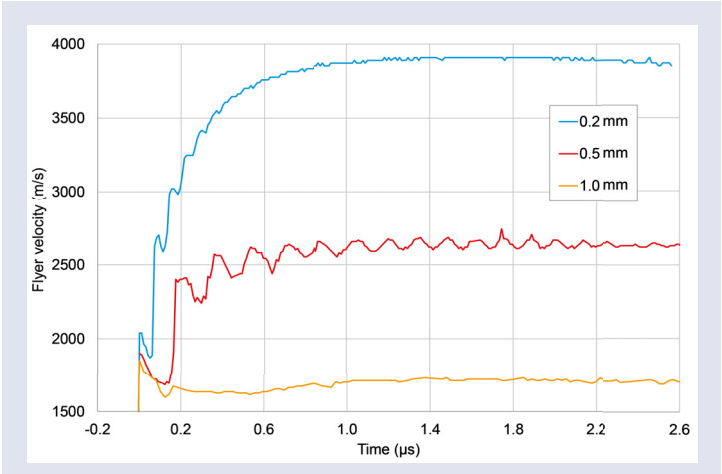
APPLICATIONS

The measurement of the velocity profiles of explosively accelerated materials can be used for determination of key properties of high explosives. Compared to the piezoelectric pin or high-speed streak camera instrumentation, the **VeloreX PDV** offers dramatically increased time resolution and velocity accuracy.

Example applications of the **VeloreX PDV** include:

- Flyer plate test to determine detonation pressure of explosives
- Cylinder expansion test to characterize expansion of detonation products
- Deflection and spall velocity tracking in blast loaded constructions
- Projectile velocity measurements in shock physics experiments
- Explosion welding optimization by a cladder plate velocity measurement
- Observing vibrations in engineering structures
- Detonator testing

Measurement of the initial velocity of fragments in field tests



Velocity profiles of aluminium discs measured in flyer plate tests

ADVANTAGES & FEATURES

- Up to 4 measurement channels
- Maximum velocity limit up to 10 km/s
- NEW Single-button operation available
- Advanced trigger options
- Eye safety thanks to all-fiber design
- WinSpeed software for data evaluation
- NEW Up-shifted operation using a reference laser or AOM

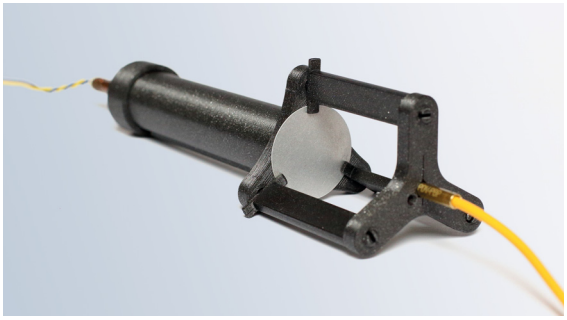
OZM RESEARCH

VER 2025

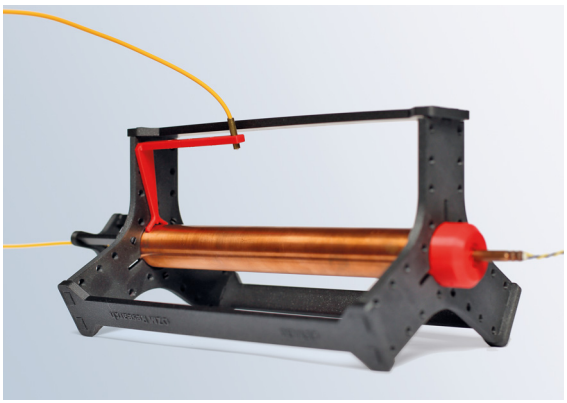
Flyer plate test setup

CONSUMABLES

- Various optical probes and cables
- Fiber optic cable extensions
- Flyer plate and impedance window test fixtures
- Cylinder expansion test fixtures
- Customizable 3d print files self-preparation of all the consumables



Flyer plate test setup



Cylinder expansion test setup

WinSpeed software

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