

## HSV-100 High Speed Vibrometer



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Optical Vibration Measurement at High Speeds  
Product Brochure





## Intelligent Valvetrain Measurement

High speed vibrations of up to 40 m/s are recorded by the HSV-100 High Speed Vibrometer rapidly and without contact. It is the instrument of choice for the analysis of valve motion in combustion engines, impact strength studies, operational reliability tests and the investigation of all processes which involve high energies and hence high motion velocities.

Internal combustion engines are designed today for energy and power efficiency over a wide load range. The HSV-100 precisely determines critical valve elevation curves and valve closing dynamics. Its wide dynamic range enables the reliable analysis of phenomena such as valve bounce, which occurs at frequencies in the kHz range.

### **Clear Results**

The HSV-100 simultaneously measures motion of the valve head and cylinder head. The high resolution differential signal reflects the real valve motion relative to the cylinder head.

### **More Knowledge**

An arbitrary number of HSV-100s can be interconnected to form a multi-channel measurement system. Productivity is increased and timing problems between individual valves are exposed.

### **Swift Integration**

The HSV-100 exclusively uses voltage signals, which are easily integrated into existing data management systems.



## Features and Benefits

### High Resolution Real-time Measurements

- Non-invasive measurement of dynamic velocity and displacement quantities
- Modern digital decoding technology
- Tracking filter guarantees reliable results even from difficult surfaces

### Flexible Use

- Compact sensor is good for restricted space conditions
- Suitable for industrial applications with IP64 rated sensor head
- Frequency bandwidth 50 kHz, optional 250 kHz
- Variable focus

### Easy Setup

- Signal level display at controller front panel and sensor facilitate aiming and adjusting the setup
- Visible measurement spot for point and shoot operation
- Optional HSV-AK-800 beam deflection unit especially well suited for engine test benches

### Reliable and Safe Operation

- Signal level output for monitoring and recording signal quality
- Large working distance protects equipment in hazardous areas
- Eye-safe class 2 laser

### Accurate Differential Measurement

- Compensates for test bench motion
- Synchronized measurement of an arbitrary number of channels with correct phase relation
- Vibration velocity and displacement output at the same time





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