

VelocityEasy

Automated Analysis of Particle Velocity

In addition to the media properties, the particle velocity during shot peening is the determining process parameter for the shot peening intensity.

sentenso now offers VelocityEasy, a software solution for evaluating video images from a high-speed camera. For the first time, it is now possible to determine particle velocities and analyse trajectories with a comparatively simple measurement setup. This setup consists of a high-speed camera with network connection and a high-intensity illumination unit for recording the fast peening particles, which are viewed in incident or backlight.

The analysis of the high-speed videos includes:

- Determination of velocity distribution of single particles in a histogram
- Determination of flight angle distribution of single particles in a histogram
- Determination of velocity over flight angle in an XY diagram
- Output of the measurement data of all detected single particles in a log file

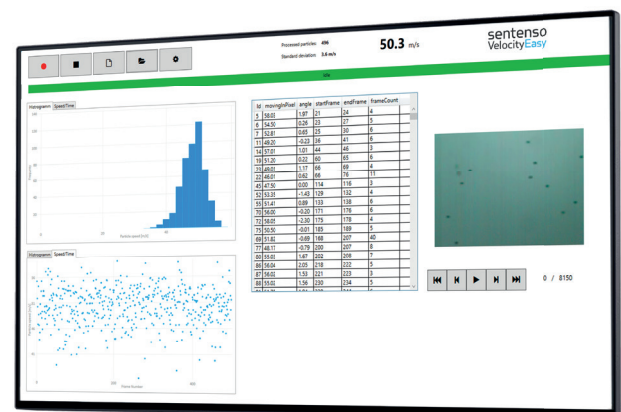
Setup and Functions

VelocityEasy automatically communicates with the high-speed camera and reads out the camera settings. The intuitive user interface allows the setup of the evaluation algorithm and the programme control. Video recording, tracking of the detected individual particles, particle marking on the image sequence, evaluation of the recordings as well as the presentation of all measurement results in the form of values and diagrams all take place automatically.



VelocityEasy is installed on a customer's Windows PC and is prepared for connection to a peening system control. Via the integrated TCP interface, an external system control can start the software remotely in the current set-up and retrieve measurement results. The measurement results can then be further processed within the control system, e.g. to check compliance with a desired speed.

The software also offers extensive additional functions for checking and managing measurement data. These include the integrated video player with the capability for single image analysis, the loading function for existing videos and measurement data sets as well as the debug output with detailed measurement information. The additional functions allow a detailed plausibility check of the results and the subsequent evaluation of existing recordings.



On request, sentenso also supplies the associated speed measurement system with a low-cost high-speed camera and a measuring channel with lighting unit as a complete solution from one source.

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