

vector:on Media Speed Management

Adaptive and Reliable Media Speed Management

Process reliability and efficiency through automatic setting of desired media speed in shot peening machines with vector:on Media Speed Management

Compliance with specified process parameters in demanding shot peening applications forms the basis for quality, reliability and repeatability in the shot peening process. As one of the essential process parameters, the media speed during shot peening must be kept within narrow tolerances. However, by varying the relevant peening pressure setting, an unknown velocity of the media is established.

With **vector:on**, sentenso offers the reliable solution for process management of the media speed. The system actively meets the biggest challenge of reliable peening intensity, the uncertainties of uncontrolled changes in media velocities due to the influences of progressing wear of the nozzle and blast hose. vector:on enables the operator to measure media velocities automatically, to set the correct velocity for the process and to check it at any time if necessary.



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Setup and Functions

vector:on is a measuring system which, with the aid of a high-speed camera and the associated VelocityEasy evaluation software, generates characteristic curves of media velocities depending on different peening pressures settings fully automatically. In this **adjustment** procedure the respective curves are stored in the system control.

The subsequent **calibration** is the systematic comparison between the desired setpoint and the true measured media speed. However, the characteristic curve is not changed.



In the normal peening process, a PLC then takes over the adjustment of the peening pressure required for the desired media velocity – taking the media flow rate into account, which also influences the media acceleration in the nozzle. All components are integrated into the shot peening machine in such a way that the adjustment and calibration can be performed live and automatic, i.e.

- directly at the peening machine and
- under real operating conditions

In compressed air peening or blasting systems, the media velocity downstream of the nozzle can be recorded directly via a measuring set-up consisting of a camera and an illumination unit.

The entire adjustment and calibration procedure runs completely automatically and usually requires no intervention by the operator. These procedures can be called up at any time and thus ensure outstanding process reliability in media flow management.



The procedure steps required for this are conveniently carried out from an operating panel of the peening unit and consist of:

- Data acquisition
- Adjustment
- Characteristic curve acquisition
- Calibration of the system to check the achieved accuracy
- Output of a calibration certificate

