

INNOVATION



# flux:on Media Flow Management

## Adaptive and Reliable Media Flow Management

Process reliability and efficiency through innovative media flow control in automated shot peening machines with flux:on Media Flow 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 flow rate for all nozzles or wheels of a shot peening system must be kept within close tolerances. The sensors and control valves available for this purpose must be adjusted and calibrated to the respective media type.

With **flux:on**, sentenso offers the reliable solution for process management of the media flow. The system actively meets the biggest challenge of reliable media flow control, the occurrence of systematic measurement errors with system operation in progress. The crucial advantage: changing media properties or changes to the sensor-actuator system are compensated by performing adjustment and calibration procedures directly on the system. These can be repeated at any time and as often as required.



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# Setup and Functions

The **adjustment** of flow control valves is the active setting of the device based on the flow rate measurement using a reliable weighing system. The adjustment is usually followed by a calibration.

The **calibration** of flow rate control valves is the systematic testing of the device by comparison of the output value on the machine control and the true flow rate, again by using a weighing system. However, in calibration settings on the flow control valve or the control system will not be changed.



In the normal peening process, a PLC then takes over the permanent closed-loop control of the media flow rate preselected on the machine control. However, the system shows its greatest benefit when 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 shot peening machine
  - under real operating conditions and
  - without dismantling the flow control valves.
- In compressed air peening or blasting systems, the media coming from the nozzle can be collected directly via a cyclone and its weight can directly be measured in a weighing bin.

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 work steps required for this are conveniently carried out from an operating panel of the shot peening machine and consist of:

- Data acquisition
- Adjustment of the media flow control system
- PID controller optimisation
- Calibration of the system to check the achieved accuracy
- Output of a calibration certificate

