

# flux:on Media Flow Management



# Process Reliability and Efficiency

## Innovative flow control with flux:ON Media Flow Management

- Automatic Adjustment and Calibration
- Minimization of manpower and machine downtime
- Maximization of repeatability and process reliability

The compliance with a given set of parameters in sophisticated shotblast or shot peening applications is the basis for quality, reliability and repeatability in the process – criteria which today cannot be satisfied without advanced measurement and control technology.

**flux:ON** by sentenso is the innovative and powerful solution to a reliable media flow management in automated shotblast and shot peening machines. The system actively meets the biggest challenge of a reliable shot flow control which are systematic measurement errors caused by diverse conditions in the adjustment at the manufacturer and the actual use in the real machine.

The outstanding advantage: Varying media properties or changes in the sensor-actor system are being compensated by the adjustment on site, even on the shotblast machine at any desired time and in any desired interval.

The required working steps are effected with the help

of a comfortable operator panel (Figure 1), the steps being

- Adjustment of system settings for closed loop media flow control (Figure 2)
  - Calibration to check the achieved accuracy (Figure 3).
- In normal machine operation a microprocessor is controlling the media flow rate that has been selected at the machine control system, such as a PLC (Figure 4). The system's biggest benefit can be achieved if all components are integrated into the shotblast machine in a way allowing a live and automatic adjustment and calibration
- right on the machine
  - under real conditions
  - without the disassembly of the flow control valves (Figure 5).

**flux:ON** therefore provides extreme accuracy and reliability in media flow control – throughout the whole lifetime of a shotblast machine.

**flux:ON** – Ready to go.

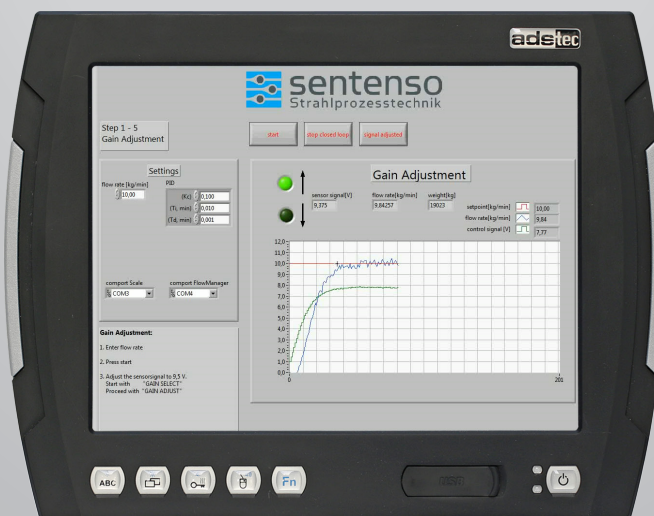


Fig. 1: Operator panel with graphical user interface

# Adjustment

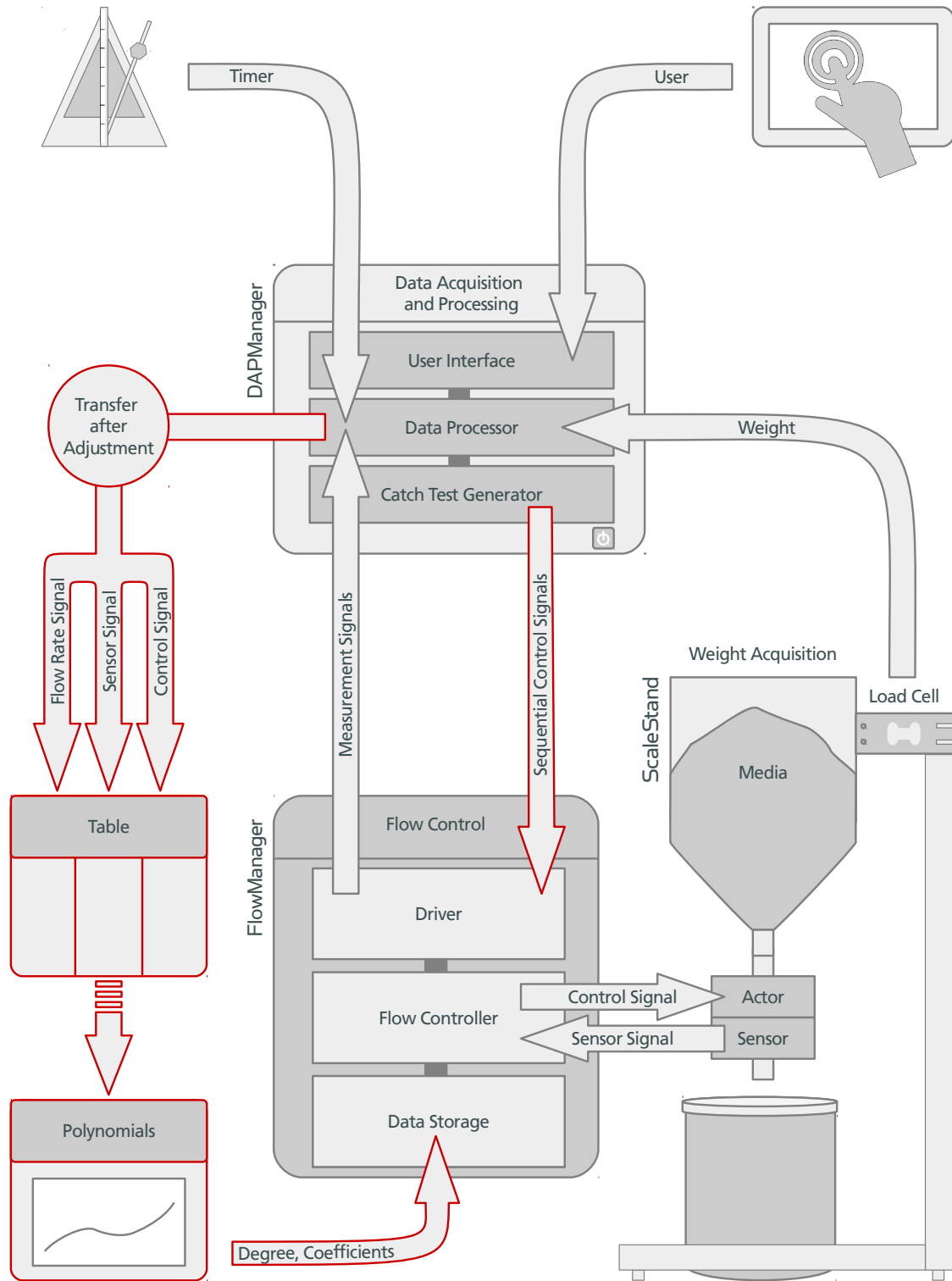


Figure 2: flux:on system in adjustment mode

# Calibration

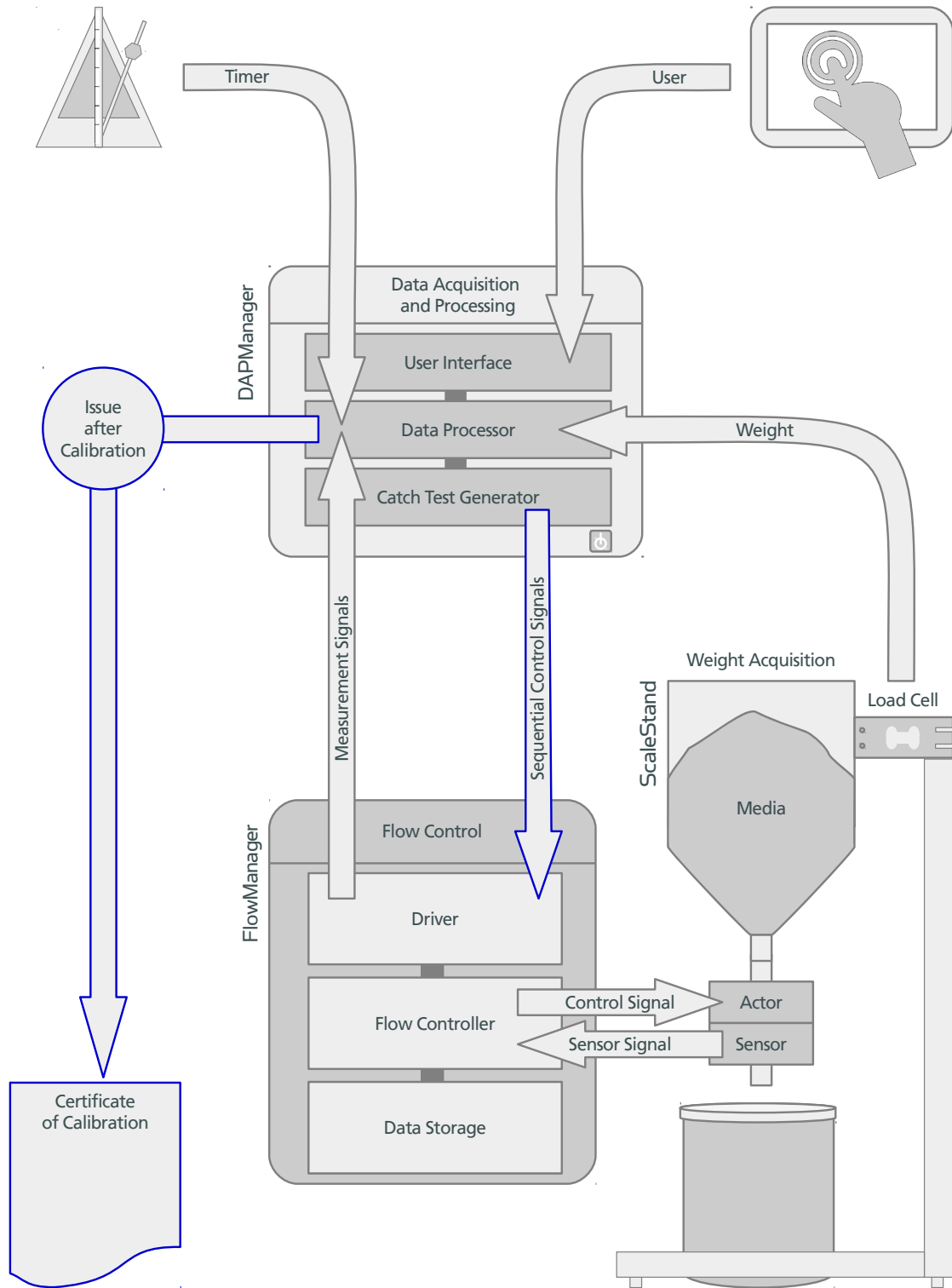


Figure 3: flux:on system in calibration mode

# Operating Mode

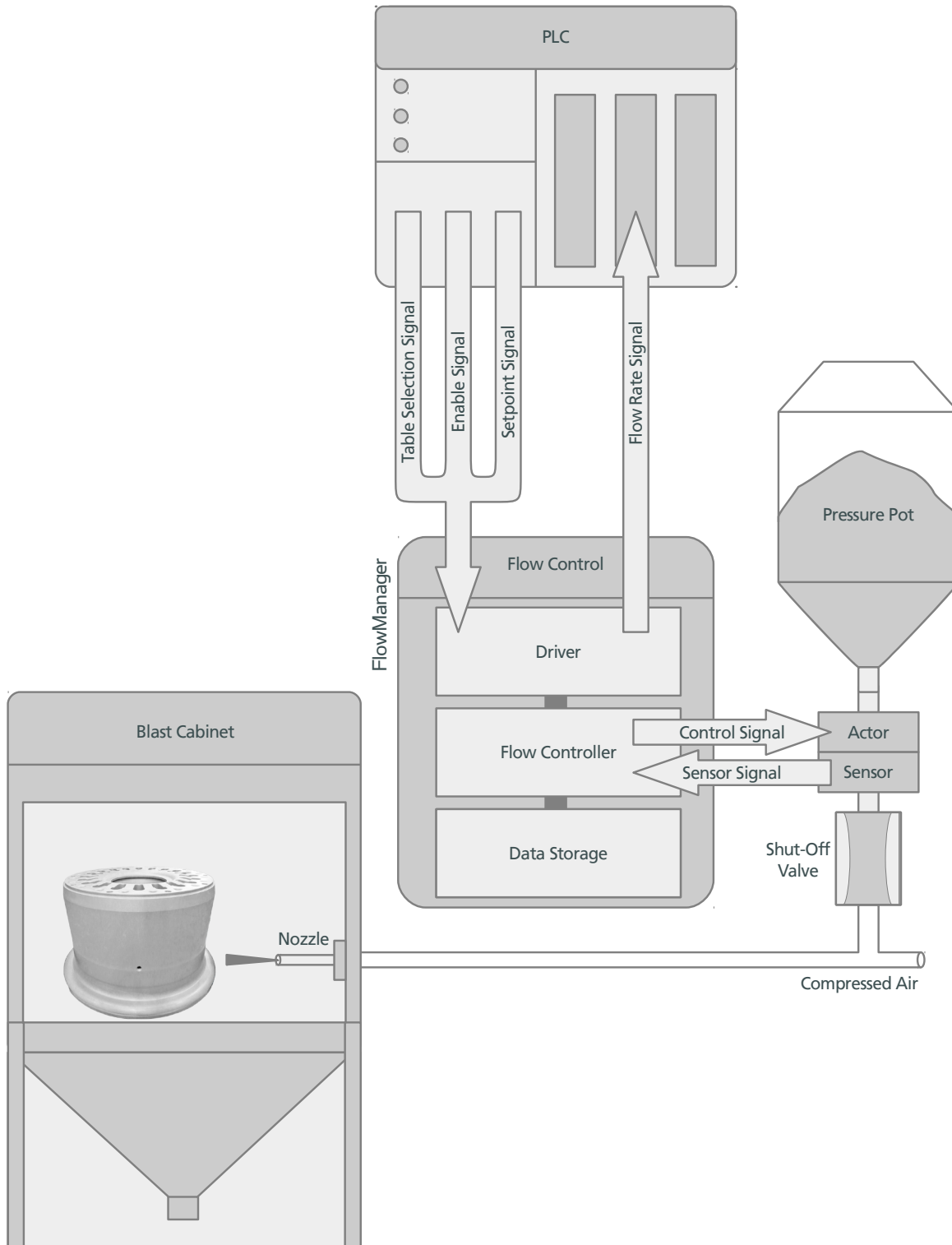


Figure 4: flux:on system in operating mode

# Live-Adjustment and Calibration

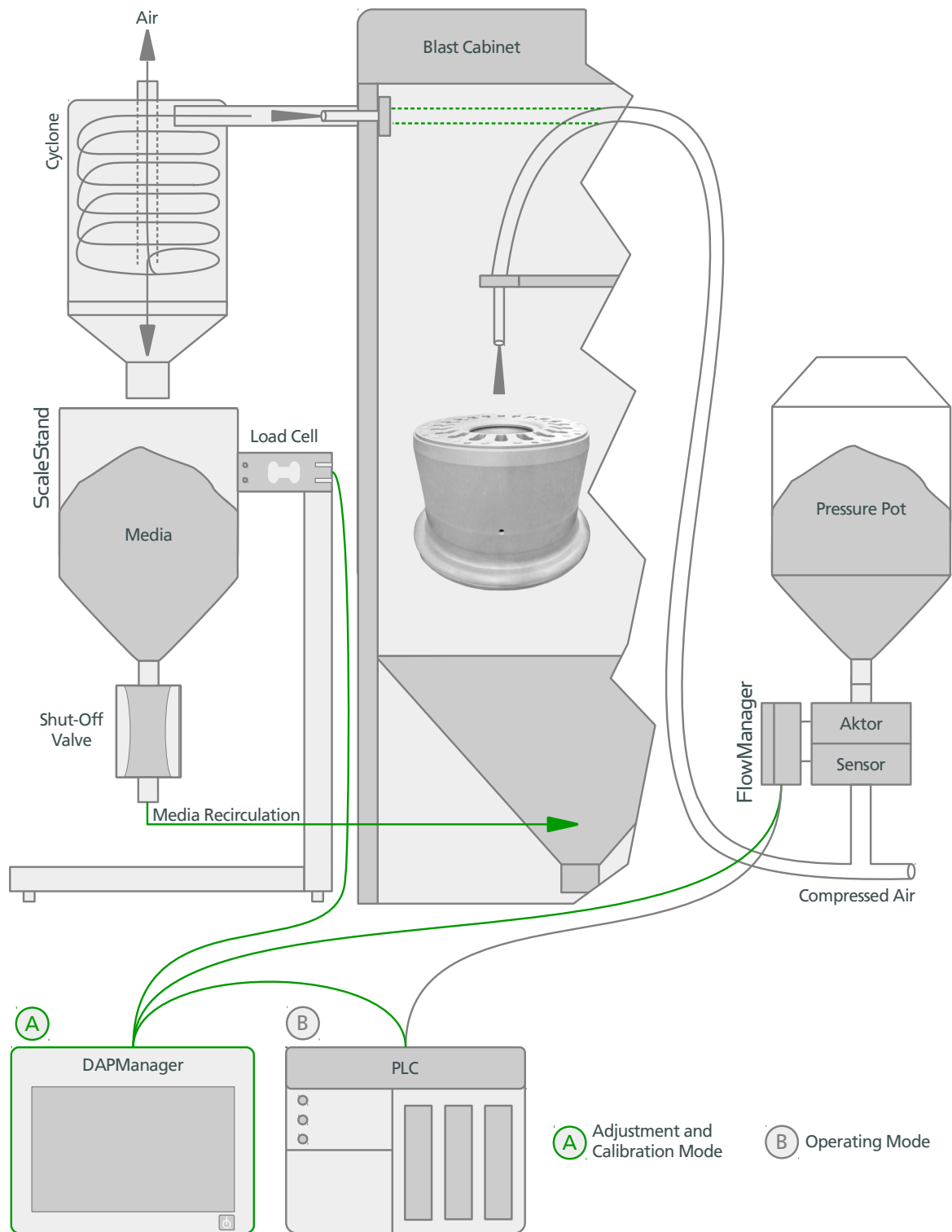


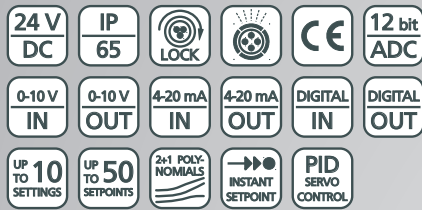
Figure 5: flux:on system for adjustment and calibration on a shotblast machine



# flux:on System Components

## FlowManager

8-000001



The **FlowManager** is the core of the flux:on system. The unit provides a board with a powerful microprocessor managing the communication with the overhead DAPManager or the machine control system and the media flow servo control in regular machine operation.

Signal input and output is being handled via an analog-digital converter at high resolutions. The data computed by the DAPManager are being stored in the FlowManager data storage for a reliable closed loop flow control which has one outstanding feature: It is extremely fast! This feature allows short cycle times of a few seconds with a stable process control.

All components including the connecting cable are easy to handle, fully shielded and designed for use in harsh environments.

- Mounting Kit for Electronics Inc. MagnaValve 5xx-24 8-000004
- Mounting Kit for Electronics Inc. MagnaValve 500-24 8-000005

## DAPManager

8-000002



The **DAPManager** is the central control unit for the automatic adjustment and calibration within the flux:on system. Times in which complex adjustment and calibration procedures had to be handled by the manufacturer of a flow control valve are finally over.

The extensive automation and user guidance through the procedure with touch panel, intuitive GUI and help texts makes fast adjustments and calibrations possible without intensive training.

The DAPManager is based on a powerful industrial touch panel PC system.

The intelligent automation allows adjustments and calibrations either with the flow control valve mounted to the ScaleStand or live with the valve on the shotblast machine (suitable machine equipment to be provided).

## ScaleStand

8-000003



The **ScaleStand** weighs the media collected in the installed hopper. By implementing short weighing cycles (in the DAPManager) and the high resolution of the robust and overload protected single point load cell the system achieves a high accuracy in flow rate measurement.

The system either operates

- in loss-in-weight mode with flow control valve mounted and media flowing out of the hopper or
- in gain-in-weight mode on the shotblast machine with media being collected externally and flowing into the hopper.

With the help of an available calibration weight and the calibration routine of the DAPManager the user can check the accuracy of the weighing system at any time.

The unit is adjustable in height, completely dismantable and mobile when packed in the optional case.

- Calibration Weight, 5 kg 8-000006
- Trolley Case 8-000007

# flux:on



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