

HE-Grinder



General view

Highlights

- 3-Axis handling (linear axis) with automatic tray onload and offload
- Data matrix code reading
- Cpk $\geq 1,67$
- Flow tolerances $\leq 1\%$
- Error distinction by error code
- Automatic mastering
- Automatic data storage
- Comfortable individually adjusted user software in Windows XP
- Operation via touch screen
- Quick changeable nests of round table
- Stable temperature ($\pm 0,3^{\circ}\text{C}$) and pressure regulation ($\pm 0,1$ bar)

Technical Data

- Cycle time: appr. 35 s
- Grinding flow: 3000 ml/min
- Hydraulic pressure max: 140 bar
- Air pressure: 6 bar

Brief Description

The automatic HE-Grinding module is used for flow calibration of high pressure nozzles. The machine is based on a round table concept where the components run through several processes in different stations (grinding station, washing station and measuring station). It is possible for the nozzles to reach each station by turning the round table.

HE-Grinding

A plunger pump presses an abrasive media through the nozzle holes with high pressure. During this process the holes of the nozzles are rounded. Within this procedure the flow through the nozzle rises and stops at a defined target flow. It is possible to make variable flow increases.

Washing

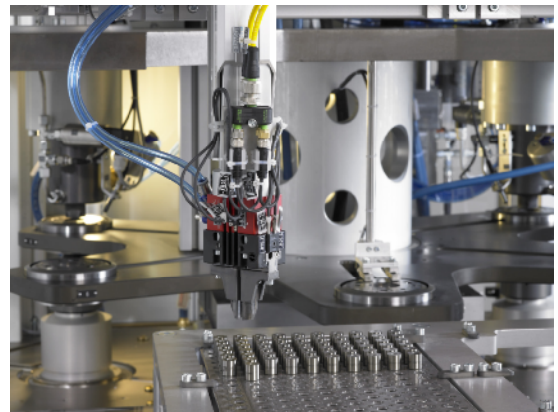
To clean the part from rests of grinding media it is necessary to wash the nozzle with a clean oil. The oil is pressed by a pump through the nozzle with a pressure between 10 and 15 bars. The washing process is carried out after the grinding process at the next round table station.

Measuring

This station checks if the grinding process was successful by measuring the flow at a particular pressure. The workpieces are separated in good and bad parts. All the results are stored in an Excel-File.

The nozzles are on- and offloaded automatically by a tray system. An 3 axis handling distributes the parts between the tray offload and onload, camera station, error rails, master part and rotary table.

The comfortable software interface makes it easy for the operator to run the fully automatic machine and makes it also possible to handle all the machine parameters easily.



Axis handling at tray



Operation area axis handling

Sonplas