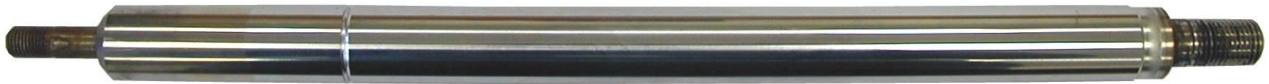


*Automatic crack detection on
piston rods
with the
1-channel eddydector®
and the test module integrated
in a super-finishing machine*

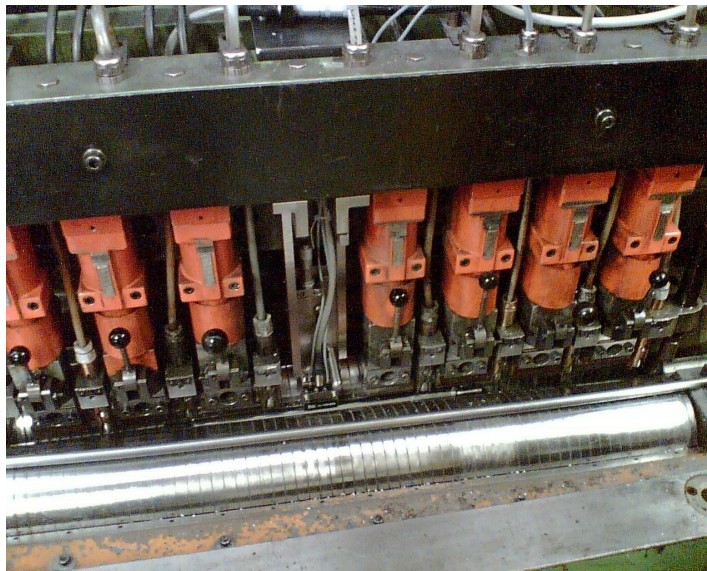


Test part

Crack detection with eddy current always requires a relative movement between probe and test part. A rotational movement is well suitable (either the test part rotates or the probe rotates).

Thus it is possible to integrate the crack test into production processes which already provide the rotational movement. An example are turning machines, grinding machines or, as in this case, a super-finishing machine. However, it has to be mentioned that the ambient conditions are not optimum for integration of eddy current crack detection into such a production machine (vibration, chips, limited control possibilities) and this will lead to cuts of test sensibility (adaptation of crack specification necessary). Such an integration can only be seen as a compromise (low investment costs versus reduced sensitivity).

Example Super-Finishing Machine

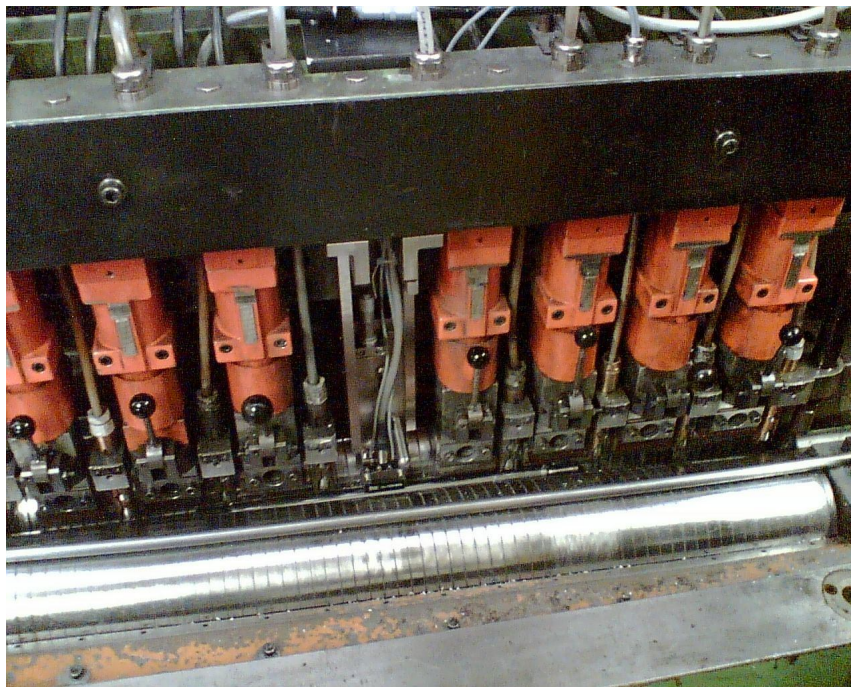


Test module with probes and adjustment mechanism.

The test module is installed at the existing machine console over the test part. Proximity switches send signals for arrival resp. discharge of a test part to a mini control unit which controls the crack detection instrument eddydector®.



eddydector® and oscilloscope in steel cabinet with mini contro.



Super-finishing machine: The fourth (from left) polishing block has been removed and replaced by the crack detection module. A piston rod is just passing the crack test station.

After the polishing resp. grinding process, the NG part may be sorted out, depending on the sorting decision. Defect specifications are determined for each single case and have usually to be found out in trials.