AUTOMATED CRACK DETECTION OF PISTON PINS AND PISTON RODS

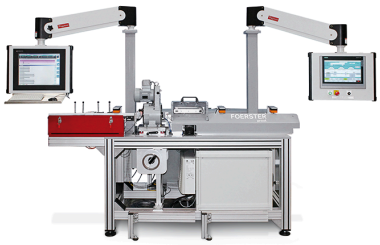
Cracks in piston pins and piston rods can cause severe engine damage. Eddy current testing reliably detects defects during production.

THE CHALLENGE

Piston pins and piston rods are exposed to high mechanical loads at elevated speeds inside the engine cylinder. Material defects such as cracks can lead to component failure and severe engine damage. To ensure structural integrity and long-term reliability, homogeneous defect-free material must be verified during production through continuous non-destructive crack testing.

THE SOLUTION

FOERSTER performs automated eddy current crack testing using the ROTO-PUSH system with integrated STATOGRAPH technology. Test pieces are fed individually at constant speed and guided through a rotating sensor head. High-speed rotating probes generate overlapping inspection coverage, enabling reliable detection of longitudinal, transverse and point defects on cylindrical surfaces with diameters from 6 to 65 mm.



THE RESULT

The system enables highly sensitive surface crack detection while maintaining high material throughput. After inspection, components are automatically sorted into good and reject parts. Integrated reporting and documentation functions provide statistical data for process monitoring and continuous quality improvement, ensuring reliable delivery of safety-critical engine components.

FOERSTER

ROTO-PUSH

Fully automatic eddy current crack test system for testing cylindrical components

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STATOGRAPH PRODUCT FAMILY

Crack testing of complex workpieces with eddy current

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Headquarters
Institut Dr. Foerster GmbH & Co. KG

In Laisen 70
72766 Reutlingen
Germany

+49 7121 140 0
info@foerstergroup.com

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