CRACK TESTING OF VALVE HOUSINGS AND VALVE SLEEVES WITH EDDY CURRENT

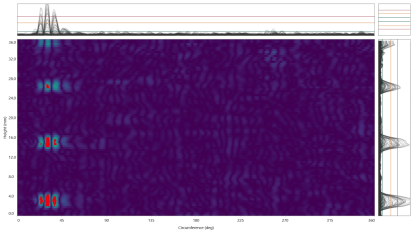
Cracks in valve housings and valve sleeves can cause engine damage or fire. Eddy current testing reliably detects defects during production.

THE CHALLENGE

Valve housings and valve sleeves in injection systems are exposed to extremely high pressures during operation. Surface defects such as cracks reduce load capacity and can lead to engine damage or fire. To ensure component reliability and operational safety, highly sensitive crack detection is required directly within the production process under demanding quality requirements.

THE SOLUTION

FOERSTER performs automated eddy current crack testing using the STATOGRAPH system in combination with highly sensitive probes. The method is based on comparison with defined reference defects. Depending on the application, either the component is rotated or a rotating probe head is used. The inspection is fully integrated into the production line and enables continuous testing under real manufacturing conditions.



THE RESULT

Reference defects with dimensions of 0.8 mm × 0.1 mm are clearly detected at a test frequency of 1 MHz with a signal-to-noise ratio greater than 3:1 . Scanning of critical surface areas confirms reliable crack detection in all defined test zones. The solution ensures consistent detection performance and stable quality control for safety-critical injection components.

STATOGRAPH CM+ / CM

Crack testing of complex workpieces with eddy current

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