SINTERED METAL VALVE GUIDE INSPECTION SYSTEM

Sintered valve guides risk longitudinal cracks from die separation stress. STATOGRAPH enables reliable crack detection at up to 10 parts/second.



THE CHALLENGE

Sintered metal valve guides used in automotive cylinder heads must be inspected for radial cracks at high production speeds. During the powder metal process, parts can stick between the upper and lower dies during separation, causing tensile stress and longitudinal cracks around the center. Detecting these defects reliably at line speed is essential for engine durability.

THE SOLUTION

The system integrates directly into the production line and guides valve guides through an encircling sensor based on STATOGRAPH CM/TCL technology. Automated triggering ensures precise inspection, while the PLC delivers real-time pass/fail decisions. The modular design allows quick adaptation to different diameters, supporting flexible automotive manufacturing requirements.





THE RESULT

The system achieves inspection speeds of up to 10 parts per second. In typical production environments, customers operate at around 5 parts per second to align with upstream and downstream processes. The solution enables stable, high-speed crack detection while maintaining consistent quality control.

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STATOGRAPH CM+ / CM

Crack testing of complex workpieces with eddy current



STATOGRAPH TCL

Smart eddy current crack detection in components critical for safety and operation

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