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Notice：the First Production-Line-Integrated 3D Scanner Visual Inspection Equipment for Engine Connecting Rods

NIDEC TOSOK has developed the first production-line-integrated visual inspection 3D scanner using laser-line light and a cross-section method to measure the outer shape of forged connecting-rod workblanks in automobile engines. The system has been supplied to an automobile manufacturer in Japan.

This new product sets us apart from our competitors by abandoning the traditional approach of manual visual inspection in favor of full automation and due to its extensive use of algorithms.

This system, based on the technology of NIDEC TOSOK's existing box type 3D scanners (RVL series), is aimed at continuous detection of 3D outer shape in production lines and is capable of replacing manual visual inspection with full automation and keep records of product quality. Furthermore, in addition to direct comparison with a master workpiece, NIDEC TOSOK has developed a new algorithm which makes comparison between scanned data and CAD models possible as well. This new technology eliminates the risk of imperfections introduced by master workpieces with shape deviations due to casting defects.

Recently, manual visual inspection has become common as the standards for automobile functional parts have become more rigorous. This system saves manpower and makes data traceability possible by saving and managing digital records. Moreover, the system is not only suitable for forged automobile workblanks, but also for casting, powder metallurgy, and resin-injection.

【Specification】

- Defect varieties : scratching, pits, water mark, burrs, shrinkage cavities, slag inclusion, deformation
- Min defect : 0.2 mm
- Inspection time : 10s／pc
- Size : 1700mm (L) × 2500mm (W) × 1970mm (H)
- Weight : 2.5t

※The above-mentioned parameters are adjustable according to the workpiece.

《Image》