



▴ PART VISION INSPECTION

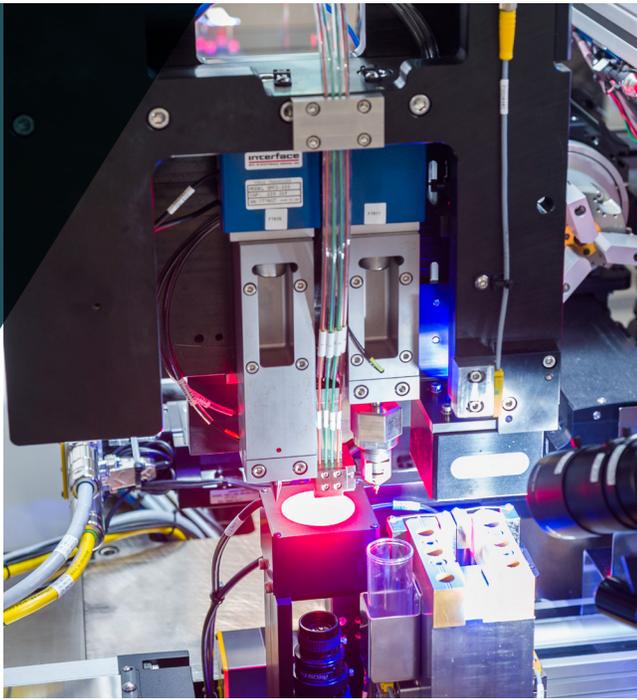
PAR's extensive experience using a variety of cameras, lighting, and lenses for 2D and 3D vision to inspect part dimensions and part quality makes it the right fit for any job.

WHAT IS AUTOMATED PART VISION INSPECTION?

Automated part vision inspection is the utilization of machine vision software to measure features on parts, determine if critical features on parts are present or not, orient parts to a certain feature, or guide motion to pick parts based on a certain dimension, location, or feature, among many other processes.

BENEFITS OF AUTOMATED PART VISION INSPECTION

- Results from automated inspection are more consistent and repeatable
- Mitigates need for significant operator training as the machine has learned the process
- Flexibility in camera, lighting, and lenses used assures the solution will fit the application
- Can be integrated into equipment performing other processes to minimize space dedicated only to inspection
- Tolerances as tight as 0.0002" (5um) can be imaged repeatably



TECHNICAL INFORMATION

Methods

- Diameter/gaging
- Length or height
- Location of feature (position, concentricity)
- Surface defect (scratch, stain, debris/flash)
- Holes or cracks
- Feature counting
- Part position
- Color or greyscale

Features

- Regularly integrated with precise motion control systems and custom fixturing to maximize machine functionality
- Use of configurable lighting to allow one system to be the inspection solution for multiple parts
- Scan/measure part to determine as-built condition
- Tool paths can be automatically adjusted to match actual part contours and address part uncertainty
- Capable of detecting and measuring part defects
- Integrated configurable and robotic fixtures or rigid dedicate tools
- Automatic tool loading and unloading
- Automatic calibration

Materials

- Organic solids
- Molded plastics
- Extruded tubes (Silicone, polyurethane, polyimide)
- 3D-printed materials
- Carbon fiber composites
- Fiberglass, Kevlar, etc.
- Stainless steel
- Steel alloys
- Aluminum
- Titanium
- Glass
- Ceramic

Supporting Technologies

- 6-axis or SCARA robot integration
- Vision-guided motion and pick and place
- Unique sorting requirements
- Incoming and outgoing conveyance

INDUSTRIES SERVED



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