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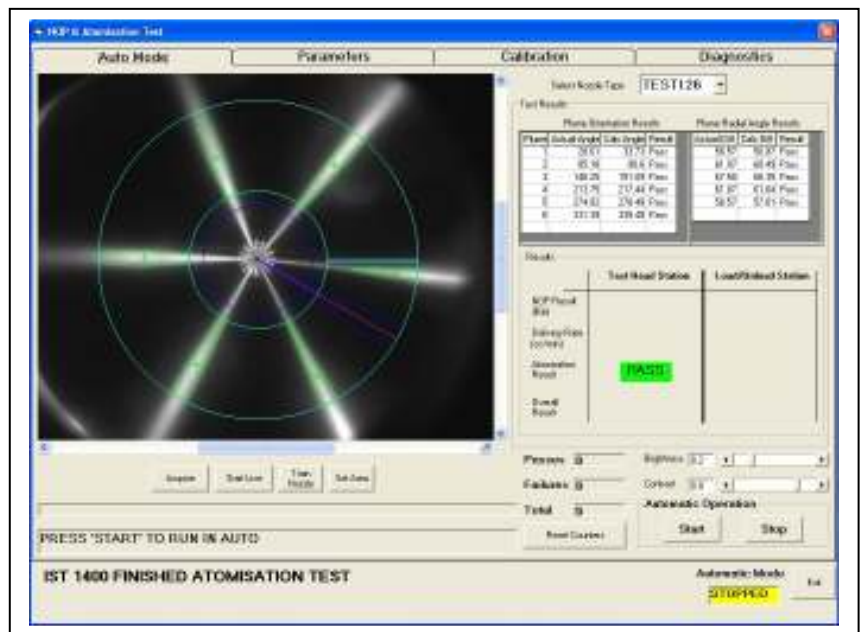


INTEGRATED VISION SOLUTIONS

Typical Applications

Component Testing

- 3 camera system.
- Camera 1 - 2D matrix. The component is orientated and the 2D matrix is decoded.
- Camera 2 – The capture and analysis of the spray plume. The plumes are measured and the relative and absolute angular positions are checked.
- Camera 3 – Leak detection. The extent of any leak after a specified test time is quantified and compared with pass and fail parameters.
- Results are sent to a central database after each test and allied to the matrix code.
- The result for each test is immediately displayed, allowing it to be instantly appraised.



ANALYSIS OF CAPTURED ATOMISATION IMAGE



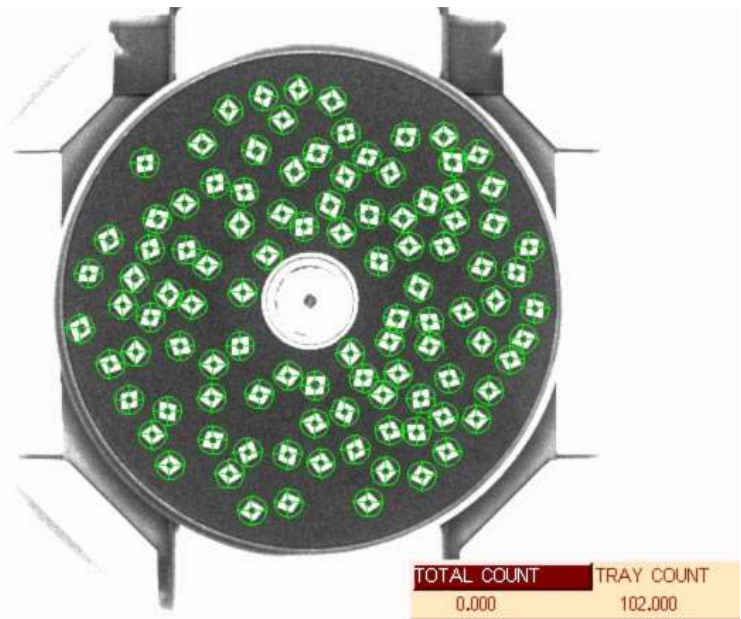
SPRAY PLUME TEST CHAMBER AND CAMERA

Due to constraints on the space available and the possibility of contamination, the camera to capture the spray plumes could not be mounted directly in line with the component. It was mounted to the side and the spray image captured via a rotating mirror in the bottom of the test chamber.

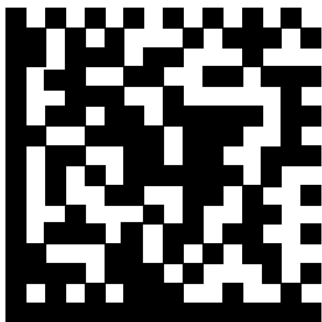


Parts Counting

- Single camera system.
- Counts components on a tray.
- Designed for 2 sizes of tray.
- Accommodates diverse number of different object shapes and sizes.
- Each component counted is highlighted.
- Records tray count and batch count.
- The maximum count is limited only by the required minimum size of object.
- Enclosed system to eliminate variations in ambient light levels.



COMPONENTS BEING COUNTED ON A TRAY



Data Matrix

- 2D matrix codes can hold up to 3116 numeric or 2335 alphanumeric characters.
- The matrix can be marked directly onto components to uniquely identify them.
- Throughout a manufacturing process, information can be allied to the code, stored then retrieved as required.
- Components can be tracked through the production process.
- 2D matrix codes are typically used where high value components are being produced or assembled.
- The matrix can incorporate built in error correction, increasing the ability to read damaged matrices.

O-Ring Inspection

- Part of a 3-camera system.
- Automatically locate to account for variation in position.
- Measure the internal and external diameter.
- Check the circularity
- Measure the wall thickness
- Inspect for damage
- Generate a pass or fail result.



O-RING BEING INSPECTED



Leak Detection

- Single camera system.
- Quantifies the rate of leak
- Pressure test from minimum up to 2000Bar.
- Automatic position of the test area.
- Self-datum facility.
- The final test result is compared with pass and fail parameters.
- The result is displayed as text and graphically.
- Size and shape of the test piece is almost unlimited.
- The smaller the area of interest, the higher the sensitivity, allowing small leaks to be detected.



1



2



3

IMAGES SHOW LEAK FROM COMPONENT



4



5



6



Glue Coverage

- 2 camera system.
- Components checked simultaneously.
- The extent of glue coverage is checked using blob analysis.
- The consistency of coverage is checked using blob analysis.
- The quality of the glue mix is checked by measuring the average greyscale value of the glue.
- Results passed to a robot that assembles good components and discards bad ones.