



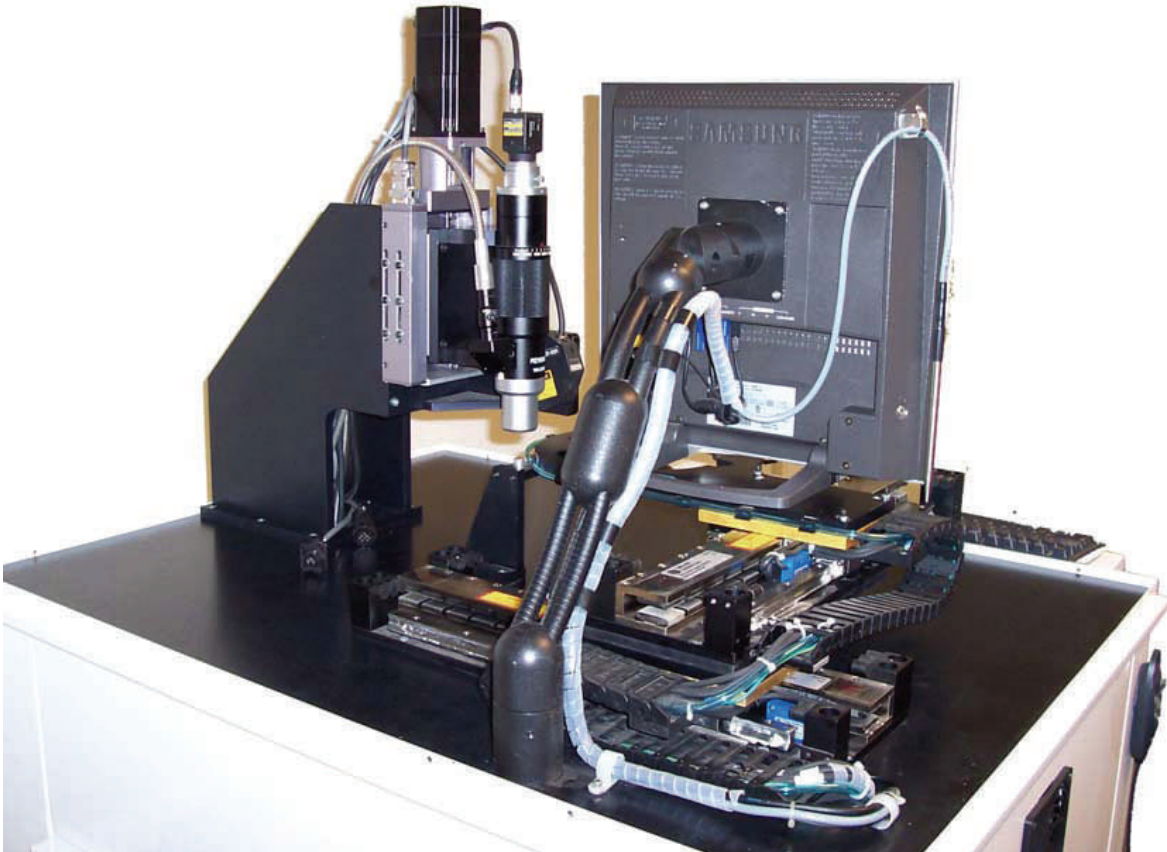
WAFER INSPECTION MACHINE



A Bio-Med manufacturer required an inspection machine for silicon wafers that have small diameter holes in it -- there are 400 holes in a one square inch area.

The company needed to determine the diameter and area of the holes to a submicron level with the holes themselves being under 10 microns in diameter.

The camera is focused and the data from the camera is recorded. Data includes light intensity, pixel count, position and resolution. Each set of 400 holes is recorded until the wafer is fully inspected. While reviewing the data, a specific hole can be repositioned and re-inspected. The tool also calibrates the lamp intensity by measuring to a chrome on glass reference.



FEATURES:

- Used in class 20 100 clean room
- Hi-resolution Keyence vision system with 1500 to 1 lens
- Allen-Bradley ControlLogix motion control with Trilogy linear motors
- Allen-Bradley RSView 32 control and monitoring software
- Data export to Excel spreadsheet of (13) uniquely identified squares containing the following data for each of 400 holes:
 - Hole disposition (pass/fail)
 - Position (X,Y,Z)
 - Light intensity
 - Pixel count
- Calibrated lamp intensity to a chrome on glass reference
- Reposition capability based on vision system position tracking
- Automatic camera focus
- Micron level positioning accuracy
- Networked PC for data export