

Application Story

Checking Coffee Capsules

The Challenge

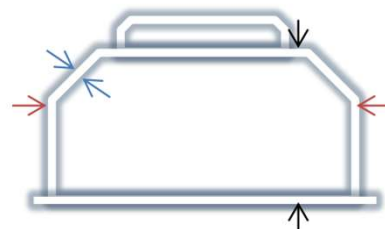
A coffee capsule manufacturer needed to check ten different points of a capsule, including thickness, height, and various diameters. The measurements required an accuracy of up to 10 microns, and a rate of 180 capsules per hour. Issues included:

- The walls of the capsules are thin, meaning strong tip forces could not be used. There were also several awkward surfaces.
- The cup had to be rotated in the measurement fixture.
- Data tracking had to be performed for each capsule. Rejected capsules must be immediately discarded, while compliant capsules would be placed in a stack. All steps must be completed quickly.
- The gauge was part of a larger, automated system, and all steps had to be seamlessly integrated.

The Solution

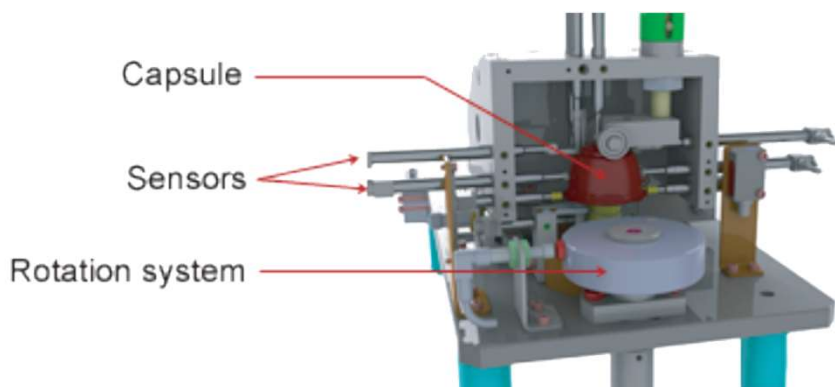
Solartron Digital Feather Touch probes, combined with its Orbit® 3 Network provided the optimum solution for inline measurement.

- **Feather Touch** probes provided low, yet repeatable tip forces to maintain a 10 micron accuracy.
- M2.5 tips were interchangeable, providing the ability to check different dimensions
- The **Orbit® Network** provided a modular platform in which all 12 sensors could be networked and output to a computer running SPC Software by Solex Metrology.
- The speed of the Orbit network, up to 4 khz per channel, provided a rapid output of readings to the SPC software.



Feather Touch Probes

Tips



Orbit[®] – The Total Measurement System from Solartron Metrology

The Solartron Orbit[®] Digital Measuring System provides a limitless set of measurement solutions, with numerous different interfaces to computers and PLC's.



Flexures



Block Gauges



Displacement



Multi Channel Wireless Gauge



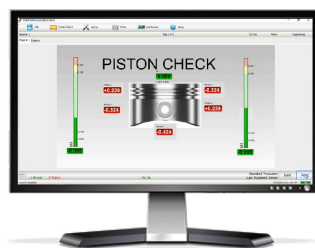
G-Type (With signal conditioning mounted at the end)



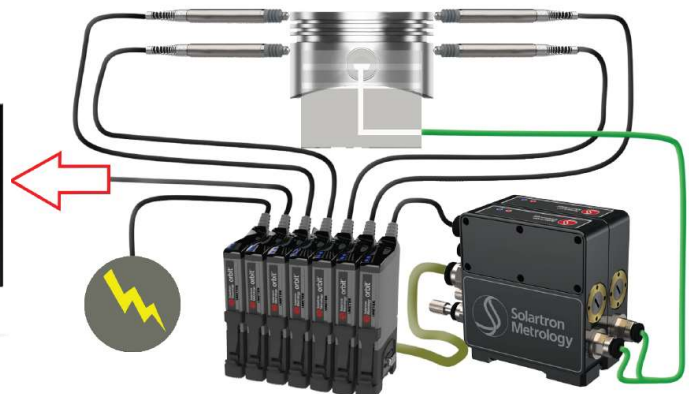
Bore Gauging



Orbit LT Lasers and Digital probes gauging a Battery Cell



Orbit Gauge Software 4.0



Measurement of Piston with Air Gauging checking ID, and connected to Orbit with the Air Gauge Module. OD Checked with Digital Probes.