

## Diameter & Ovality Measurement Systems

AccuScan systems from Beta LaserMike provide on-line precision measurements of the diameter and ovality of tubes. Using laser scanning technology, AccuScan systems are able to perform diameter measurements in an intelligent gauge head during production and communicate those measurements to a host system or controller.

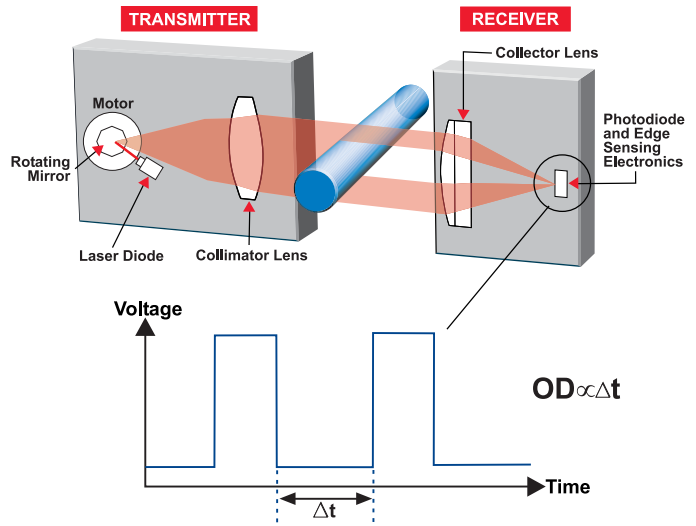
**AccuScan 1000** series gauges are single plane laser scanners that measure only diameter.

**AccuScan 5000** series gauges are dual plane laser scanners that measure both diameter and ovality.

### Laser Scanning Measurement Principle

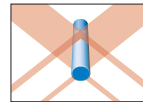
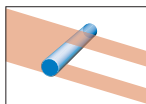
In 1972, the founders of Beta LaserMike introduced the world's first laser scanning micrometer (the "LaserMike"). AccuScan gauges employ this laser scanning measurement principle, which uses a low-power helium-neon laser that is scanned at high speed through a measurement window and across the tube.

When the laser first scans across to the receiver, the light hits the photocell and the voltage rises. The voltage drops when the light is blocked by the tube and rises again when the light reaches the photocell. The change in time ( $\Delta t$ ) that the light is blocked by the tube is proportional to the tube's outside diameter.



### AccuScan Models

Each AccuScan gauge has built-in signal processing and intelligence and supports communication in RS-232, DeviceNet, and Profibus protocols. Air purge systems are available to keep the windows clean of dust and debris.



Model	OD Range	Gate Size	Accuracy
AccuScan 1050	0.35–50 mm (0.014–2.00 in.)	66 mm (2.6 in.)	±0.003 mm (±0.00010 in.)
AccuScan 1100	1.27–100 mm (0.050–4.00 in.)	117 mm (4.6 in.)	±0.006 mm (±0.00025 in.)
AccuScan 1140	0.75–140 mm (0.030–5.50 in.)	152 mm (6.0 in.)	±0.020 mm (±0.00080 in.)
AccuScan 1190	1.25–190 mm (0.050–7.50 in.)	218 mm (8.6 in.)	±0.025 mm (±0.00100 in.)

#### Options

- Height stand (normal upright or at 45 degrees)
- Roller guides
- Air cleaner filtering unit
- In-head, high-speed flaw detection software
- STAC logic software (measures max/min OD of corrugated products)

Model	OD Range	Gate Size	Accuracy
AccuScan 5010	0.1–10 mm (0.004–0.40 in.)	16 mm (0.63 in.)	±0.0005 mm <sup>1</sup> (±0.000020 in.)
AccuScan 5025	0.2–25 mm (0.008–1.00 in.)	52 mm (2.05 in.)	±0.001 mm <sup>1</sup> (±0.000040 in.)
AccuScan 5040	0.2–40 mm (0.008–1.50 in.)	52 mm (2.05 in.)	±0.001 mm <sup>1</sup> (±0.000040 in.)
AccuScan 5080	1.27–80 mm (0.050–3.15 in.)	108 mm (4.25 in.)	±0.002 mm <sup>2</sup> (±0.000080 in.)
AccuScan 3175*	10–175 mm (0.39–6.89 in.)	200 mm (7.87 in.)	±0.05 mm <sup>3</sup> (±0.00200 in.)

### AS5000 Features

- Standard 2400 measurements per second
- Standard per facet calibration for highest achievable accuracy
- Integrated air purge for extended operation
- Highly flexible communication including: DeviceNet, Profibus, CanOpen & RS232
- Enhanced ultra-bright display
- Rugged, robust IP65 rated housing
- Use stand-alone or as part of a full line solution

<sup>1</sup>±0.02% of product size   <sup>2</sup>±0.01% of product size   <sup>3</sup>±0.1% of product size

\*AccuScan 3175 uses camera CCD technology. All other AccuScan 1000 and 5000 series gauges use laser scanning technology.