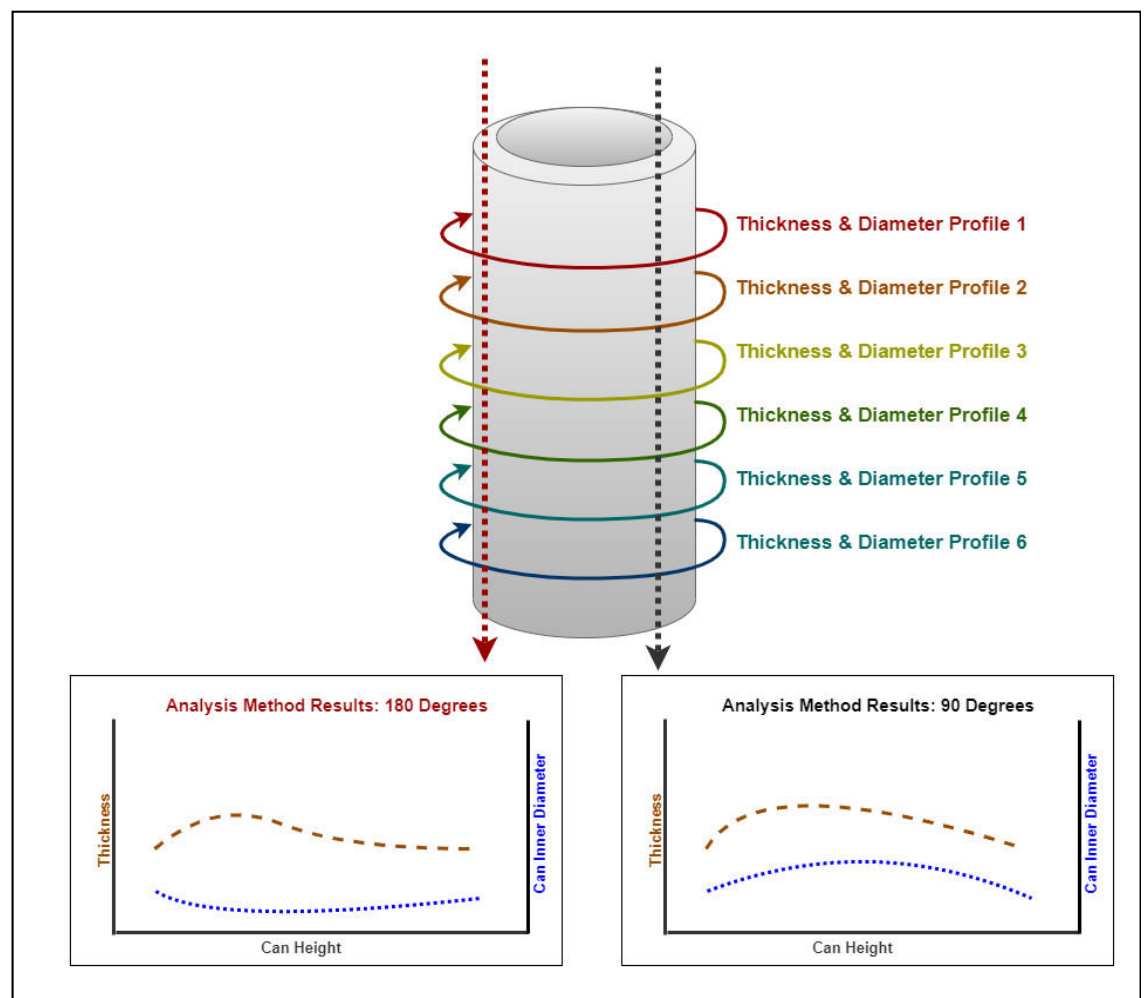


CONTACTLESS CAN WALL ANALYSIS MACHINE

Contactless Beverage Can and Cup Wall Thickness Machine

The Contactless Can Wall Analysis Machine (CWAM) uses white light confocal sensors to precisely measure the wall thickness of beverage Cans with unprecedented detail and accuracy.

The Can is measured internally and externally to the nanometer at any height and rotation along the vertical can wall. The sensors start by measuring the thickness of the Can as it rotates 360 degrees. It then moves vertically along the Can height, building up rings of data at user-specified intervals and heights. The ring thickness data are interpolated to produce wall thickness measurements.



Functionality		Key Advantages
Wall Thickness Measurement	<p>Automatic wall thickness measurement to submicron Resolution.</p> <p>Measures rotational and linear profiles along any point on the Can wall.</p> <p>Wall thickness measurement accuracy to better than +/- 6 microns & resolution to 100 nanometers</p>	<p>Wall thickness measurement from 15 to 200 mm of can height through 360 degrees of rotation.</p>
Can End Measurement	<p>Automatic Adjustment for Can size</p> <p>Dome Depth Measurement</p> <p>Shell and End Profile Measurement.</p> <p>End Lip Curl Measurement.</p> <p>Ample potential for more; inquire to find out.</p>	<p>Rapid Can change with automatic size detection and adjustment.</p> <p>Measure and record complete Can End or Shell profiles.</p> <p>Checks critical dimensions against pre-set criteria. eg Dome Depth.</p>

Machine Specification

Thickness Measurement Capabilities			
Can internal diameter:	33mm to 100mm	Can Height Range over which thickness can be measured:	10mm to 200mm(1)
Measurable Wall Thicknesses:	0.005mm to 2mm		
Physical Specifications:			
Approximate footprint (excl. monitor)(2):	540mm wide x 460mm deep x 720mm high	Weight:	40 kg Earing measurement only
Electrical Power:	240/110 V AC 50/60 HZ (5)	Pneumatic supply not required	

(1) Cans longer than 100 mm or very thin Cans may require extra stabilising fixtures for wall thickness measurement. Please let us know your requirements.

(2) A standard 21 Inch computer monitor is supplied with the machine. A second monitor (not supplied) can also be connected as some customers find this easier for analysing results. A spare HDMI socket is provided for this.

(3) 180 deg/s is the default but if more detailed results are required, a lower rotation speed can be set. Halving the measurement speed doubles the samples per degree.

(4) This is the accuracy that we expect our customers will experience and be able to verify of our machines, provided that they are well maintained and calibrated. Calibration tooling is provided with the machine. Tooling can be re-certified upon request.

(5) Please specify required voltage and frequency when ordering.



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Principles of Operation

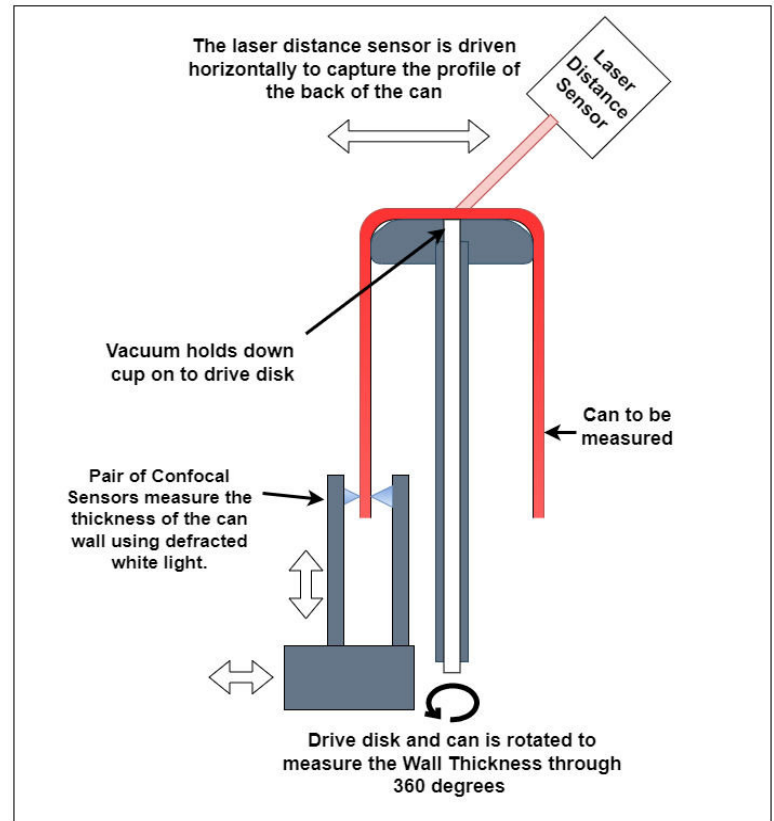
Wall Thickness Measurement

The wall thickness measurement option allows for Cans as narrow as 33mm ID and as deep as 20 - 200mm to be measured.

The confocal sensor pair of the CWAM is used to measure wall thickness between 0.005mm and 2.000mm and Can heights of between 15-200mm from the base of the Can. The mounting of the confocal sensor pair on an XY gantry allows the system to automatically adjust for can diameter and height.

CWAM has the ability to diagnose bodymaker alignment problems by building a comprehensive map of wall thickness around and along the can. This allows bodymaker eccentricity and non-collinearity to be identified and corrected with unprecedented accuracy and speed without a need for a bodymaker strip down.

Damaged or worn bodymaker, cupper tooling and asymmetric lubrications are also identifiable by CWAM through the detection of tiny imperfections and surface roughness of the Can wall.



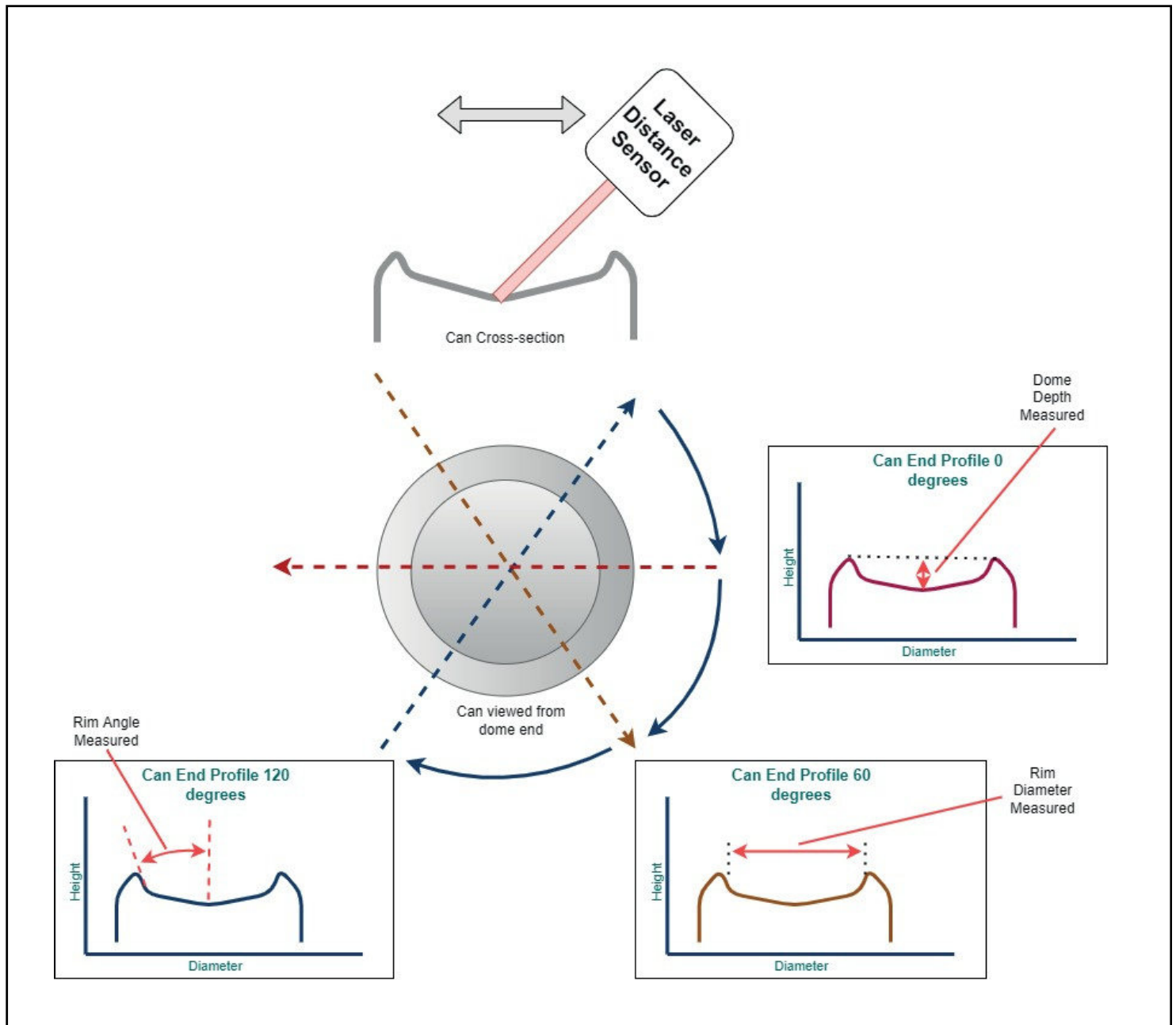
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Can Dome and Rim Mapping - Addition

The Can Dome and Rim Mapping Addition adds a motorised laser distance sensor angled at 45 degrees which can move horizontally across the base of the inverted can. This enables the laser distance sensor to scan across and profile the external surfaces of the Can base. The Can is then rotated a user-specified number of degrees and an additional profile is measured. By measuring multiple profiles a 3D map of the back of the can is constructed. From this, specific measurements such as dome depth, rim diameter and rim angle are attainable.

The same technique can be used for Can Lid measurement. The height of any point is measurable to a single-micron resolution at any point of rotation of the Can.



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Huxley Bertram Engineering Limited designs and builds special-purpose machines, automation and test equipment; alongside a select line of products for specialised industries.

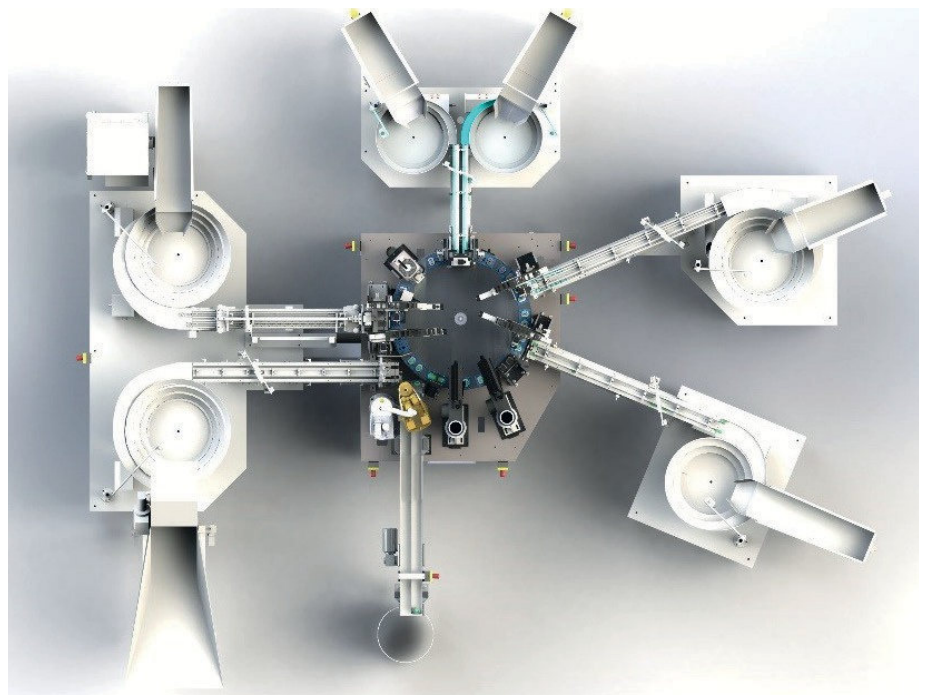
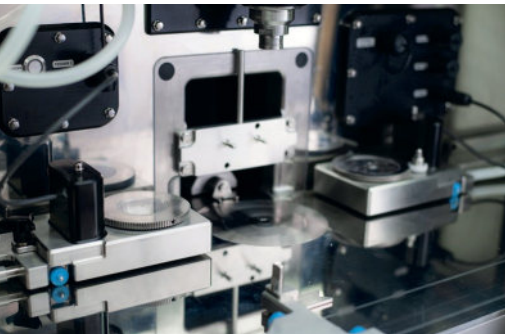
These innovative solutions enable companies to increase quality and throughput and reach new markets. Huxley Bertram regularly supplies equipment and supports customers all around the world.

The company collaborates with clients to solve complex challenges, with the right mix of innovation, technology and simplicity.

Huxley Bertram was founded in 1979. Since then it has delivered over 1,000 solutions, transforming clients' operations in industries from pharmaceutical and nuclear to research and academia.

Located in Waterbeach, Cambridge, with facilities measuring over 25,000 sqft.

For more information on Earing Measurement Machines or Huxley Bertram Special Purpose Machines visit www.huxleybertram.com



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