Application Note

Inline oxygen inspection on Tortelloni pasta tray package

AutoMap headspace oxygen for 100% measurements in food packages like bags, pouches, and trays.

Modified Atmosphere Packaging (MAP) is widely used in the food sector, to guarantee the freshness and shelf life of food packages. This involves frequent reduction or increase of oxygen during the packaging process. As a part of the quality system, a HACCP scheme is implemented. The verification of the MAP process is monitored using an at-line measurement or a sampling process using lab equipment. These are often done by a destructive method.

The Gasporox's AutoMap unit measures gas concentrations in a non-destructive way. This makes it suitable for 100% testing on an existing production line. This laser-based Headspace Analyzer (HSA) method is independent of content and requires no parameter adjustments for different packages.

Example of low oxygen trays packed with Tortelloni pasta

The trays are measured continuously (trays placed manually on the belt in this example) with the Gasporox´s AutoMap unit where the laser light passes in headspace of the flexible film as the unit creates a dome for measurement with suction cups. The measurement is triggered when the package is passing by a photocell placed on the belt. The measuring head is automatically lowered, and the measurement starts. The headspace oxygen concentration on each package is displayed continuously on the screen as the packages is passing thru, it also shows average concentration.

The tray (or the top film) is not damaged or altered and can go directly further to second packaging. A rejecter can be added to the unit and a threshold set to eject packages that are out of specification.
The data is stored in the unit and can be extracted to be logged and stored.

Product:	Tortelloni pasta 250g
Gas:	Oxygen
Measurement time:	200 ms
Total cycle time	1 sec
Precision:	± 0,1% O_2
Sample handling:	Placing Tortelloni trays (20pcs) manually on the belt, repeated 3 times

Tortelloni pasta 250g