

AGC Map-Pak Headspace Gas Analyser

Accurate Analysis of Gas Flushed Food Packaging

About the Map-Pak Analyser Range

Designed specifically for the Food Industry, the Map-Pak food gas analyser measures the content of gas flushed food packaging. The Map-Pak range includes two analysers:

1. The **Map-Pak Combi** measures the Oxygen, Carbon Dioxide and Nitrogen content in gas flushed food packages (the latter being as a balance gas).
2. The **Map-Pak O₂** measures the Oxygen content in gas flushed food packages.

Both versions provide a key analytical solution to cover your food packaging quality control requirements. The Map-Pak Combi, which shows the measurements for all three major gases used in food packaging, is the most flexible solution to cater for a wide range of gas mixtures across multiple product lines.

The Map-Pak range was developed as quality control devices that have a range of features and can be used with minimal training. These lightweight portable analysers are easy to use in quality control functions and can be used for all food applications, as well as some applications in the pharmaceutical industry. Sample measurements and results are achieved within 10 seconds and the operator can modify the various features of the analyser to best suit their requirements. A minimal gas sample is required and three sample volume options are available to suit all packaging types. A long battery life also ensures continuous operations in busy production schedules.

An ergonomic probe holder which features an integrated needle cover allows users to pick up and put down the sample probe safely and with ease. Furthermore, strengthened and wipe-clean ABS Plastic is used for weight reduction and increased comfort for the operator, ensuring numerous analyses are taken quickly.



Features

- Large LCD Display with backlight
- Measurement range of 0.1% - 100%
- Highly Accurate
- Measurement results achieved within seconds
- Integrated data logging with large measurements capacity
- Adjustable alarm feature with pass/fail indicator
- Safety holster and cover for the probe and needle
- Operator I.D. selectable
- Product I.D. selectable
- Available in multiple languages
- MP Downloader Software is included with every unit



Principle of Operation

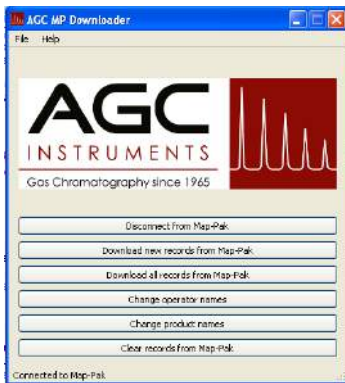
The Map-Pak, using a small gas sample from the gas flushed pack, measures and records levels of Oxygen (O₂) or Oxygen and Carbon Dioxide (CO₂). The levels of gas are measured using specially customised sensors; Oxygen levels are measured by an electrochemical sensor and the Carbon Dioxide levels are measured by a nondispersive infrared sensor (NDIR). An electric pump provides a small amount of gas into the sensor. The O₂ and CO₂ particles are detected by the respective sensors and the measurements are displayed on the screen within seconds. The N₂ level is then displayed as a balance gas reading.

Typical Applications

- Meat and Poultry
- Seafood
- Precooked Meats
- Convenience Foods
- Salads
- Coffee
- Baked Goods
- Pasta
- Pharmaceuticals
- Dairy Produce
- Fruits & Vegetables
- Glove Box Analysis

What does the Map-Pak Offer?

- Lightweight & Portable
- Fast and Accurate O₂ & CO₂ & N₂ readings
- Easy to use interface
- Minimal gas sample required
- Easy to calibrate
- 7 hours of Battery Life /Alternative mains power supply
- Fast recharge feature
- Needle blockage alarm



Results and Reporting

Results can be stored on the Map-Pak device or can be downloaded to a computer using the MP Downloader Software provided. Furthermore, a small portable printer is available for the Map-Pak range to print results on receipt-size paper or labels. This portable thermal printer is ink-free to save on costs. Each of these reporting options allows the user to display their results in a way that best suits their HACCP system. In addition, the calibration certificates provided with each Map-Pak unit adheres to the Modified Atmosphere Packaging and HACCP requirements for audits.

Map-Pak Thermal Printer

The Thermal Printer connects to the Map-Pak range of analysers to print out results of the Modified Atmosphere Packaging gas contents. This compact printer uses a special thermal paper which means that no ink cartridges are used, thereby cutting down on costs. The fast print speed ensures that results are printed promptly for your record keeping needs. There is a fine cutter to separate the records easily to complete the process.

Weighing just 400 grams, the light-weight design enables the user to move the printer about freely in the working environment with a belt clip for added comfort. This is coupled with an easy connection system to the Map-Pak analysers for plug and play workability. A Lithium Ion Battery delivers 30,000 lines per charge for longevity of use also.



Specifications

Accuracy	O ₂ ± 1% (full scale) CO ₂ ± 5% (of reading e.g. 20% CO ₂ = Accuracy of ± 1%)
Accuracy at 1% O ₂ & 20% CO ₂	Better than ± 0.25% O ₂ and Better than ± 1% CO ₂
Resolution	0.1%
Repeatability	1% relative to gas reading
Measuring Method	Electro Chemical Sensor (O ₂), Nondispersive infrared Sensor (CO ₂)
Measuring Range	0% to 100% in 0.1% increments
Operating Temperature	0 to +40 Degrees Celsius
Response Time	<10 seconds
Sensor Lifetime	O ₂ Sensor - 2 years* CO ₂ Sensor - Indefinitely
Sample Gas Volume Options	Low: 6 ml Medium: 30ml High: 50ml
Sample Probe	Probe with flexible sampling connection to internal pump
Alarms	Alarms feature thresholds: can be defined separately for each product by customer
Calibration	Simple 2 Point Calibration (O ₂ Sensor only)
User Interface	Graphic Display with backlight 30 x 60 [mm]
Data Output	Serial Interface-USB
Data Storage	Measurements can be stored internally
Power Supply	
Mains Adapter	9V wall adapter (Universal AC supply)
Battery Pack	4 NiMH rechargeable cells
Operation Time	7 hours normal use from full charge / Continuous operation using mains adapter
Power Saver	Automatic Shutdown after 2 minutes of non-use/idle time
Enclosure	Strengthened & Wipe-clean ABS Plastic with integrated probe holder and needle cover
Weight	450 grams
Dimensions	L =228, W=72/117, H=47 [mm]
Approvals	CE - marked according to: EMC 2004/108/EC , Low Voltage Directive 2006/95/EC
	Manufactured under the ISO 9001:2008 Quality Management System
MP Downloader Software	Windows Compatible
	Download results to CSV file, Clear Records, Edit Operators/Products

*Higher Oxygen Levels in food packaging may reduce this time depending on the concentration.

Additional Accessories Included

The Map-Pak Combi comes complete with a full accessories kit for use straight out of the box. The accessories kit includes:

Needles (5 off), Septa (100 off), Particle Filters (2 off), Needle Probe (1 off), Carry Case (1 off), User Manual (1 off), Rechargeable Batteries (4 off), Mains Adapter (1 off), Calibration Certificate (1 off) and MP Downloader Software (1 off).



Can/Bottle Piercer

Designed specifically for the Map-Pak range of gas analysers, the Can/Bottle Piercer is a critical component for measuring the head space in cans, bottles and other containers. This robust equipment is easily adjusted to suit a wide range of cans and bottles and is built to manage even the toughest surfaces. The needles and components are carefully selected for the application(s) required and is thoroughly tested prior to shipping. The compact design, with an integrated holder for the Map-Pak and sampling system, leaves a small footprint for busy environments. Used in conjunction with the Map-Pak analysers, reliability and accuracy are assured.



AGC Instruments

AGC Instruments is a leading manufacturer of Gas Analysis Solutions to all users requiring a Quality Control or identification of their gas stream. The Map-Pak range is the fourth generation of gas analysers for the food packaging industry and AGC Instruments has over 50 years of experience in the gas analysis industry which guarantees a trustworthy solution for your operations.

AGC places an emphasis on the continuous development of our analytical solutions. With our worldwide reach with strategic partners ensures that you have peace of mind and after sales care that are important to your operations. AGC Instruments works closely with all customers to ensure they obtain the analytical solution that meets their needs and a system that is easy to use and understand. All AGC distributors are extremely experienced and factory trained to the highest standards, offering you a complete after sales support service.

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Gas Chromatography since 1965

