



GAMMAPRO

AUTOMATIC O₂ analyser and leak detector.



The **GammaPro** is a fully AUTOMATIC Leak Detector which is synchronized with a **GammaTower** (O₂ analyser & patented perforating device manufactured by Astaara), and dedicated to Industries using Modified Atmosphere Packaging (MAP) to package food products. It has been specially designed for sample testing on assembly lines in Factories handle large production volumes, and that have to follow Food Safety Management Systems according to ISO 22000 & HACCP.

The **GammaPro** enables food manufacturer to measure and check the O₂ content of packed food just after the gas recipe has been injected in the packaging, and also to measure any leak of the flexible packaging.

Current leak testing methods.

80% of Industrial Leak Detection devices are using pressure decay today. It is very effective to measure leaks for products that are rigid, whose shape does not change when put under pressure.

However, measuring precisely a leak by measuring pressure decay is only precise and reliable if the volume of the sample is not changing during the measurement, which is not the case for flexible packaging.

Flow measurement at a Constant Pressure is the only reliable method for measuring a leak in a flexible packaging. It follows DIN 55508-1 of 01/02/2018.

This is this method that has been selected to develop the **GammaPro**, ensuring total precision and reliability.

GammaPro main advantages:

- ◆ Fully automated process and data immediately available.
- ◆ Measure leaks > 5 µm.
- ◆ Modified Atmosphere Packaging (MAP) packaging Control.
- ◆ Accurate analyzed results.
- ◆ ISO 22000 & HACCP compliance.
- ◆ Cost savings (the **GammaPro** operates without consumables).
- ◆ Brand protection and lasting taste for your products.

Automatic calibration check:

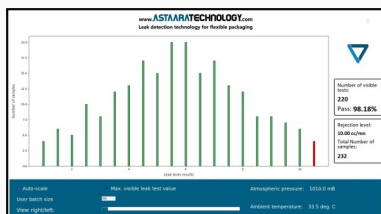
A calibrated leak is built-in the leak testing unit of the **GammaPro**. The value of this calibrated leak is stored in the instrument’s memory (the leak is expressed in cc/mn at a given pressure in mB). The operator can compare the **GammaPro** performance with the calibrated leak value at any time, and determine if recalibration is required.

Operating instructions:

To test products, divert samples from the assembly line to an inspection line where the **GammaPro** has been installed. The O₂ analysis is performed first of all, immediately followed by the leak test, both without any human intervention whatsoever (it is a destructive test). Results are visible on the **GammaPro** screen, these can be transferred instantly to a computer via a USB connection to study the results on a pivot table.

Optional monitor:

The optional monitor (15.6”) with integrated calculator displays the leakage results of the previous tests.



The histogram shows the distribution of the results, and helps to understand if the production is experiencing an unfavourable drift.

Technical specification:

The **GammaPro** consists of 2 separate units: a **GammaTower** (patented perforating device) and a leak testing unit. The **GammaTower** and the leak testing unit are communicating via a PS/2 cable and a PU tubing.

1. GammaTower:

Patented perforating device.



- OLED display 1.5".
- Servo driven internal perforating thin conical stainless steel pointer.
- Silicon bellows diameter: 15mm* (* other sizes / shapes: consult us).
- Cantilever holder for free movement of tower.
- O₂ sensor: FIGARO KE 25 from Japan.
 - Temp: min/max 5 – 60°C.
 - When calibrated at both 0% and 100% of O₂, accuracy in the range from 0-100% O₂ shall be within ±5% of full scale).
 - Life expectancy at 20°C in normal air (1013hPa / 20.7% O₂): 3 years.

2. Leak testing unit:

- Structure: aluminum and ABS.
- Display: 4.3” resistive touch screen.
- Alicat electronic pressure controller from U.S.A., 1000 mbar scale.
- Alicat mass flow meter from U.S.A., 1000 sccm scale.
- Microprocessor: embedded ATMEL2560, 16 Mhz.
- Calibrated leak port.



Foot print: 260 x 250 mm Weight: 10 Kg.

The **GammaPro** is guaranteed 3 years.

WARRANTY TERMS AND CONDITIONS, other ASTAARA products, videos, dimensions, weights, drawings and further information:

www.ASTAARATECHNOLOGY.com.

Manufacturer: Astaara Technology Pte. Ltd.

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