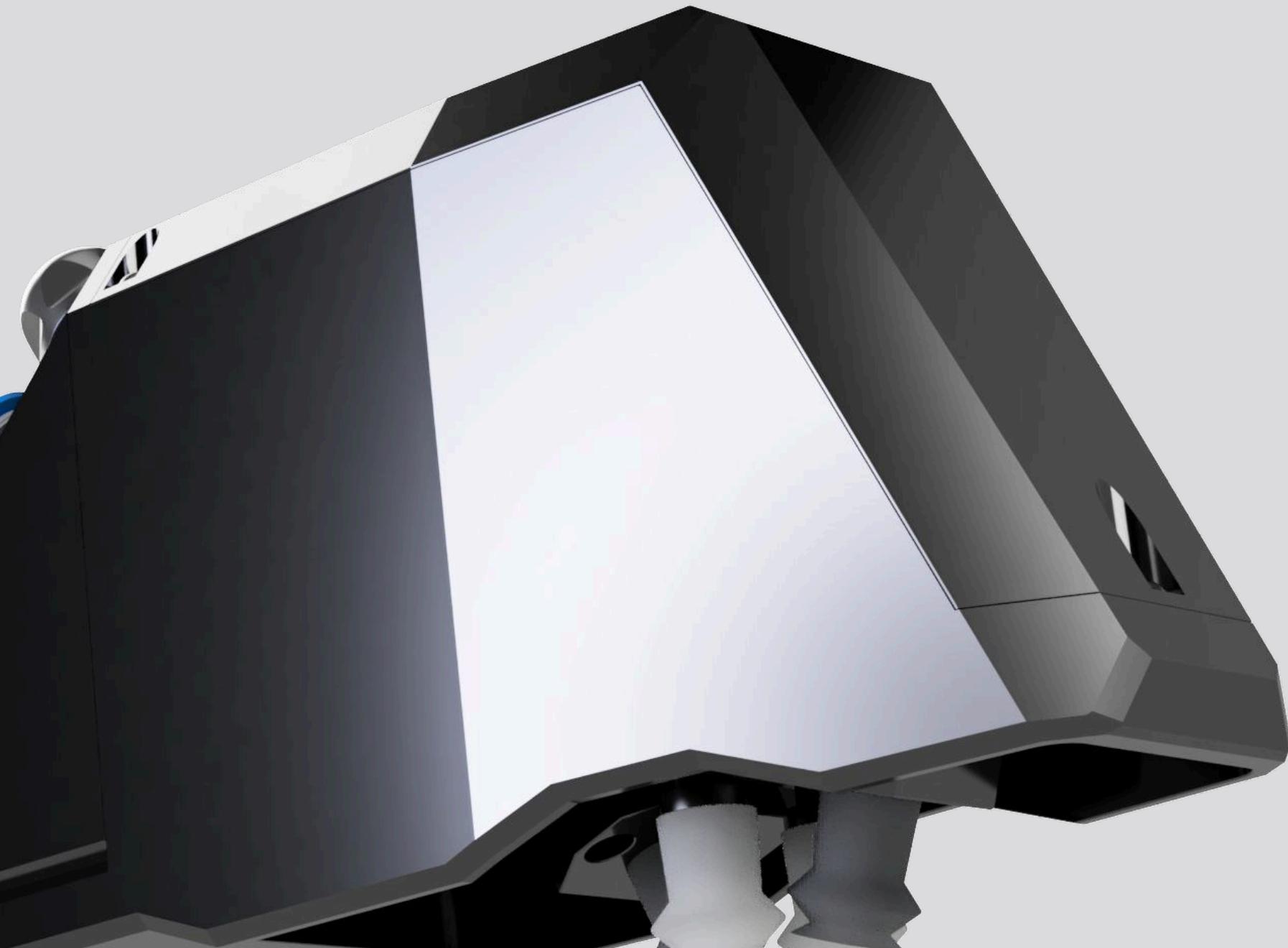


# GASPOROX

LASER SENSOR PACKAGE SOLUTIONS

PRODUCT CATALOG



Reliable  
non-destructive  
inspection for  
pharma, food and  
inline



# Our technology

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Innovation, precision, and reliability — these are at the core of Gasporox technology.

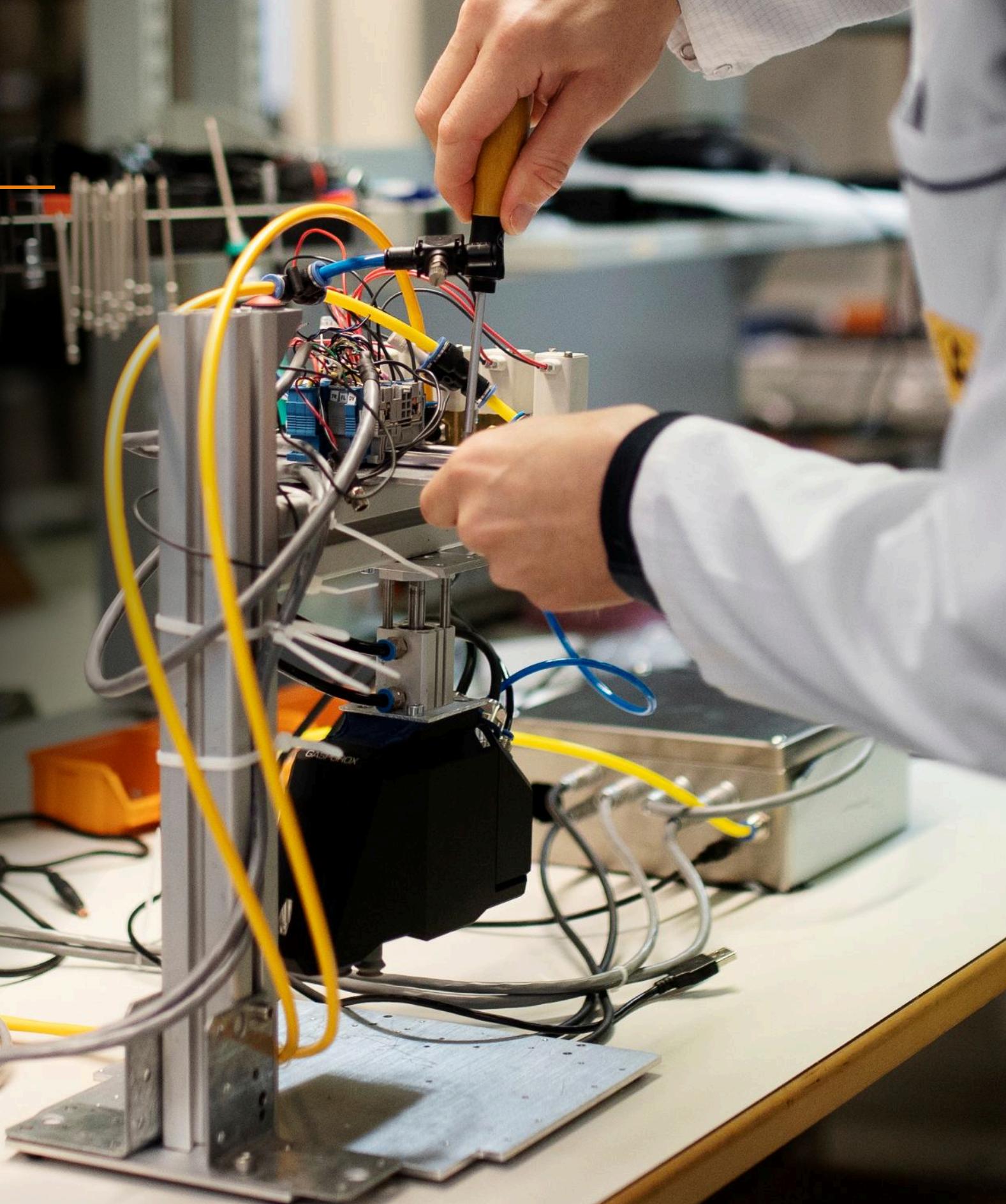
For over a decade we've helped manufacturers deliver safer, higher-quality products to their customers.

Our technology is built on high sensitive Tunable Diode Laser Absorption Spectroscopy (TDLAS), a method that precisely measures oxygen, carbon dioxide, and internal pressure in various of sealed containers. From smaller compact devices to fully automated inline systems, we deliver flexible solutions tailored to every production.

Whatever the setup, our products ensure consistent, non-destructive quality control that our customers can rely on.

## The team behind the technology

Every Gasporox product is designed, built, and tested in Sweden. From concept to calibration, our in-house engineers ensure every detail meets the highest standards of quality and craftsmanship.



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# Product overview



## GPX1500 Vial

Compact benchtop unit for non-destructive O<sub>2</sub> and CO<sub>2</sub> testing in vials, ampoules and prefilled syringes.

**Application:** Quality control and seal integrity verification in pharma packaging.



## AutoMAP™

Inline module for 100% non-destructive headspace gas testing of transparent film packaging.

**Application:** Continuous O<sub>2</sub> monitoring and leak detection in MAP food and pharma production.



## VialArch™

Inline sensor module for continuous headspace gas analysis of vials and other SVPs in-line

**Application:** 100 % inspection for oxygen-sensitive pharmaceutical products.



## GPX1500 Film Food

Benchtop analyser for MAP food trays, pouches and flow wraps.

**Application:** O<sub>2</sub> and CO<sub>2</sub> control to maintain freshness and shelf life.



## BottleArch™

Inline sensor module for continuous headspace gas analysis of bottles and other LVPs in-line

**Application:** Leak detection and oxygen control in beverage and pharma lines.



## CellSpect

High-precision sensor for CO<sub>2</sub> leak detection across diverse package types.

**Application:** Inline leak testing and process control in food and pharma production.



## GPX1500 Film Pharma

Instrument for non-destructive testing of flexible IV bags and pouches.

**Application:** Residual gas measurement ensuring sterility and package integrity.

## Complete Packaging Solutions

Gasporox delivers a full range of instruments for non-destructive gas measurement in vials, bottles, bags and trays, ensuring product integrity from development to production.



Pharma solutions



# Vials and ampoules

Vials and ampoules play a critical role in protecting injectable drugs, biologics, and vaccines. However, any imperfection in the glass or closure can lead to leaks or unwanted gas exchange, risking product degradation. Oxygen ingress can compromise sensitive formulations, and incorrect headspace composition may indicate sealing issues or process deviations. Ensuring the right gas environment, typically nitrogen or argon, is essential for maintaining product stability and safety.

# GPX1500 Vial

Instrument for inspection of vials, ampoules and prefilled syringes



# GPX1500 Vial



GPX1500 Vial makes it possible to perform non-destructive testing of closed containers such as ampoules, vials and prefilled syringes. This instrument provides an accurate and quick solution. With a low measuring time of 2 seconds, it allows for frequent testing of samples.

The instrument can be used for release testing, at-line process application, laboratory application, product development and investigations

## Supported containers

- ISO Tubular vials 2R - 100R
- Moulded vials with diameters 16 mm - 49 mm
- ISO 1 ml - 30 ml ampoules
- Other ampoules with diameters 9.75 mm - 23.5 mm

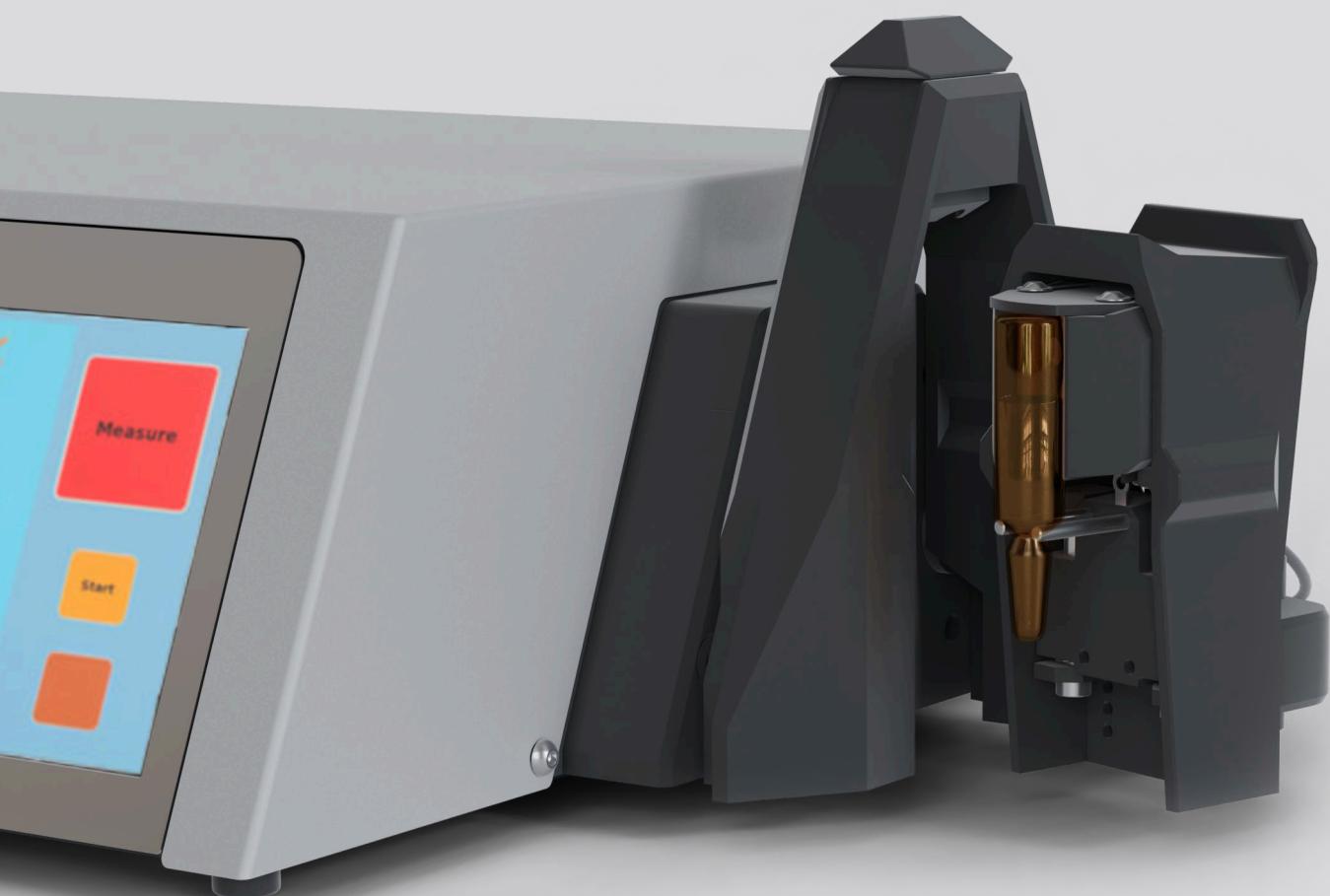


## Specifications

Gas:	O <sub>2</sub>	H <sub>2</sub> O*	CO <sub>2</sub>	Startup time:	<1 minute
Measurement range:	0 - 100%	Total pressure: 50 - 1000 mbar Partial pressure: 2- 30 mbar	0 - 100%	Approvals:	CE-marked accorting to: - EMC 2014/30/EU - Low Voltage Directive 2014/35/EU
Display resolution:	0.01%	1 mbar	5% relative	Primary electrical:	100 - 240V, 50W, 50 - 60Hz AC
Infrared laser:	Class 1 according to IEC 60825-1 760 nm, <0.5 mW	1400 nm, <10mW	2000 nm, <10mW	Housing:	Metal housing
Typical performance:	0.1% 0.03% Accuracy Precision	Total pressure: ±0.2 mbar or ±5 % relative Partial pressure: ±0.5 mbar ±0.2 mbar	5% relative 0.02%	Measurement time:	2 seconds
Measuring techique:	HSA/TDLAS - Tunable Diode Laser Absorption Spectroscopy			Weight:	8 kg
Temperature:	15 - 25°C			Interfaces:	Touch screen HMI, USB, Service ethernet, Serial RS422
				Dimensions (HxDxW):	210 mm x 480 mm x 265 mm

# GPX1500 Vial

## Formats



### Ampoules

Ampoule format tailored to fit every ampoule size, supporting ISO 1 - 30 ml formats in clear or amber glass



### Vials

Each format perfectly matched to its vial size, compatible with tubular and moulded vials in amber or clear glass.



### Prefilled syringes

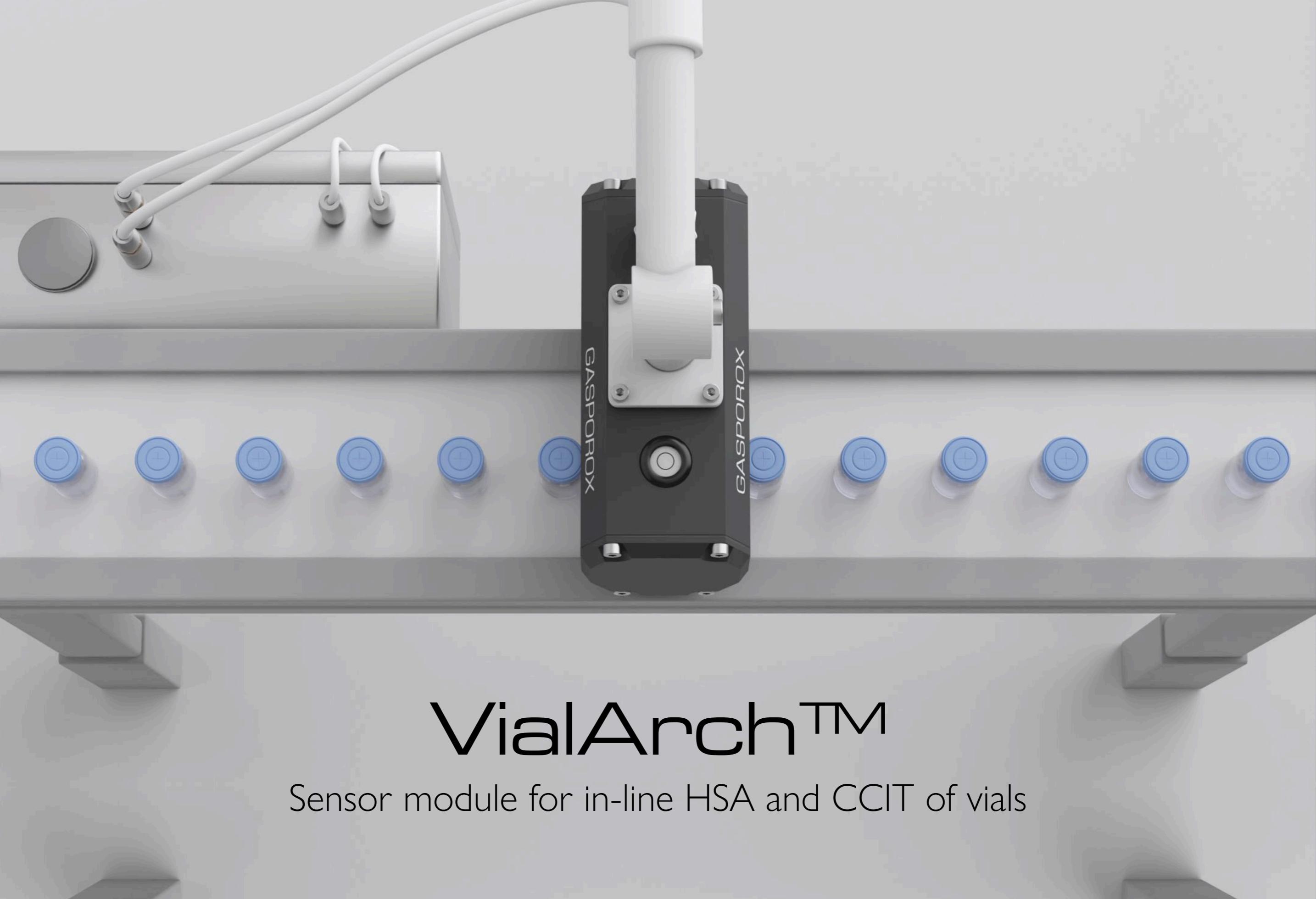
Tailored format for pre-filled syringes, ensuring accurate, non-destructive measurement and quality control.





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GPX1500Vial Format Part: 10R  
SN: VF10138



# VialArch™

Sensor module for in-line HSA and CCIT of vials

# VialArch™

Our sensor module VialArch provides a completely non-destructive approach to headspace analysis (HSA) and container closure integrity testing (CCIT). This solution is intended for integration into in-line inspection or production lines. VialArch can measure oxygen and total pressure in several different containers such as tubular vials, molded vials, amber vials, plastic vials, ampoules, and Bottles.



Specifications				
Gas:	O <sub>2</sub>	H <sub>2</sub> O	Input power:	24V/2A DC, range 18 - 30V DC
Measurement range:	0 - 100%, 0 - 800 mbar partial pressure ingress air	10 - 1050 mbar Total pressure, 0 - 25 mbar Partial pressure	Measuring technique:	HSA/TDLAS - Tunable Diode Laser Absorption Spectroscopy
Typical Accuracy:	0.2% O <sub>2</sub> at 300 mm/s		Vial container criteria:	2R - 100R
Typical Precision:	0.1% O <sub>2</sub> at 300 mm/s		Measurement performance:	The measurement performance is highly dependent on the application parameters
Infrared laser:	Class 1 according to IEC 60825-1 760 nm, <2.5 mW	1400 nm, <10mW	Vial pitch:	Minimum 1 vial diameter gap at 600 vials/min
Electronic box:	Stainless steel 90 mm x 200 mm x 200 mm 2,5 kg IP54		Approvals:	CE-marked according to: - EMC 2014/30/EU - Low Voltage Directive 2014/35/EU
Arch:	Aluminum anodized 90 mm x 170 mm x 70 mm 1.0 kg IP65		Communication interfaces:	Input/output communication Digital output
Measurement speed:	Up to 600 vials/min			Serial RS422, USB Digital I/O, 0 - 24V (sinking type)

## Applications





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# BottleArch™

Sensor module for large volume parenterals

# BottleArch™

The BottleArch™ sensor module is a completely non-destructive and non-intrusive inspection sensor for headspace analysis of larger bottles such glass bottles, and large volume parenterals (LVPs).

The BottleArch™ can measure oxygen in:

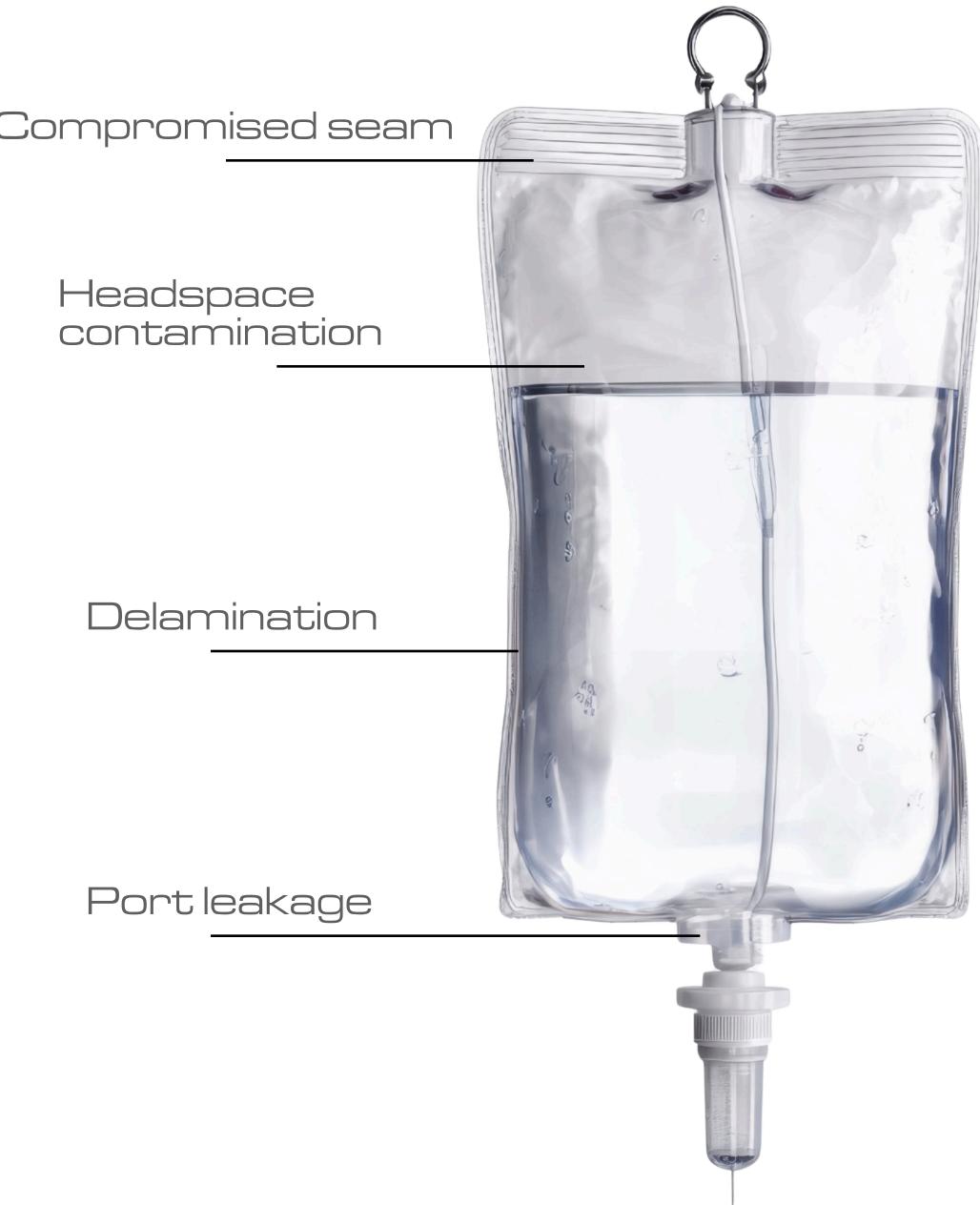
- Moulded vials/bottles
- Large tubular vials/bottles
- Both amber and clear glass

The BottleArch™ is based on Tunable Diode Laser Absorption Spectroscopy (TDLAS). It can be used as headspace analysis for oxygen sensitive products and Container Closure Integrity Testing (CCIT) and intended for integration into in-line inspection in production lines for 100 % testing and quality control.



## Specifications

Gas:	O <sub>2</sub>	Input power:	24V/2A DC, range 18 - 30V DC
Measurement range:	0 - 100%, 0 - 800 mbar partial pressure ingress air.	Measuring technique:	HSA/TDLAS - Tunable Diode Laser Absorption Spectroscopy
Typical Accuracy:	±0.4% O <sub>2</sub> at 300 mm/s	Container criteria:	<105 mm Diameter
Typical Precision:	0.2% O <sub>2</sub> at 300 mm/s	Measurement performance:	The measurement performance is highly dependent on the application parameters
Infrared laser:	Class 1 according to IEC 60825-1 <0.5 mW	Pitch:	Minimum 12 mm gap at 600 bottles/min
Electronic box:	Stainless steel 90 mm x 200 mm x 200 mm 2,5 kg IP54	Approvals:	CE-marked according to: - EMC 2014/30/EU - Low Voltage Directive 2014/35/EU
Arch:	Aluminum anodized 90 mm x 170 mm x 70 mm 1.0 kg IP65	Communication interfaces:	Input/output communication Digital output Serial RS422, USB Digital I/O, 0 - 24V
Measurement speed:	Up to 600 bottles/min		



# Flexible containers

Flexible containers such as infusion bags are widely used for parenteral solutions such as lipid emulsions, amino acid mixtures, and nutrient or electrolyte solutions. These oxygen-sensitive products require a controlled atmosphere to maintain stability and shelf life. Issues such as leaks or insufficient nitrogen flushing during sealing can lead to excessive residual oxygen in the headspace, causing oxidation, degradation, and loss of product efficacy.

# GPX1500 Film Pharma

Instrument for inspection of flexible pharmaceutical packages



# GPX1500 Film Pharma

GPX1500 Film Pharma makes it possible to use our non-destructive laser technology on flexible pharmaceutical packages for headspace analysis. With a measurement time of 4 seconds this is a suitable option if you want to perform fast and accurate at-line, storage or laboratory quality testing.

This instrument can be used on flexible film bags and pouches. Including primary and secondary bags as well as multi-chamber bags. The headspace volume needs to be greater than 3 ml and the required transparent area for measuring has to be bigger than 10x30 mm. Content that can be tested ranges from milky, oily, and transparent liquids.



## Applications

- Instant spot-checks at-line
- Oxygen diffusion studies
- Shelf-life oxygen studies
- CCIT studies



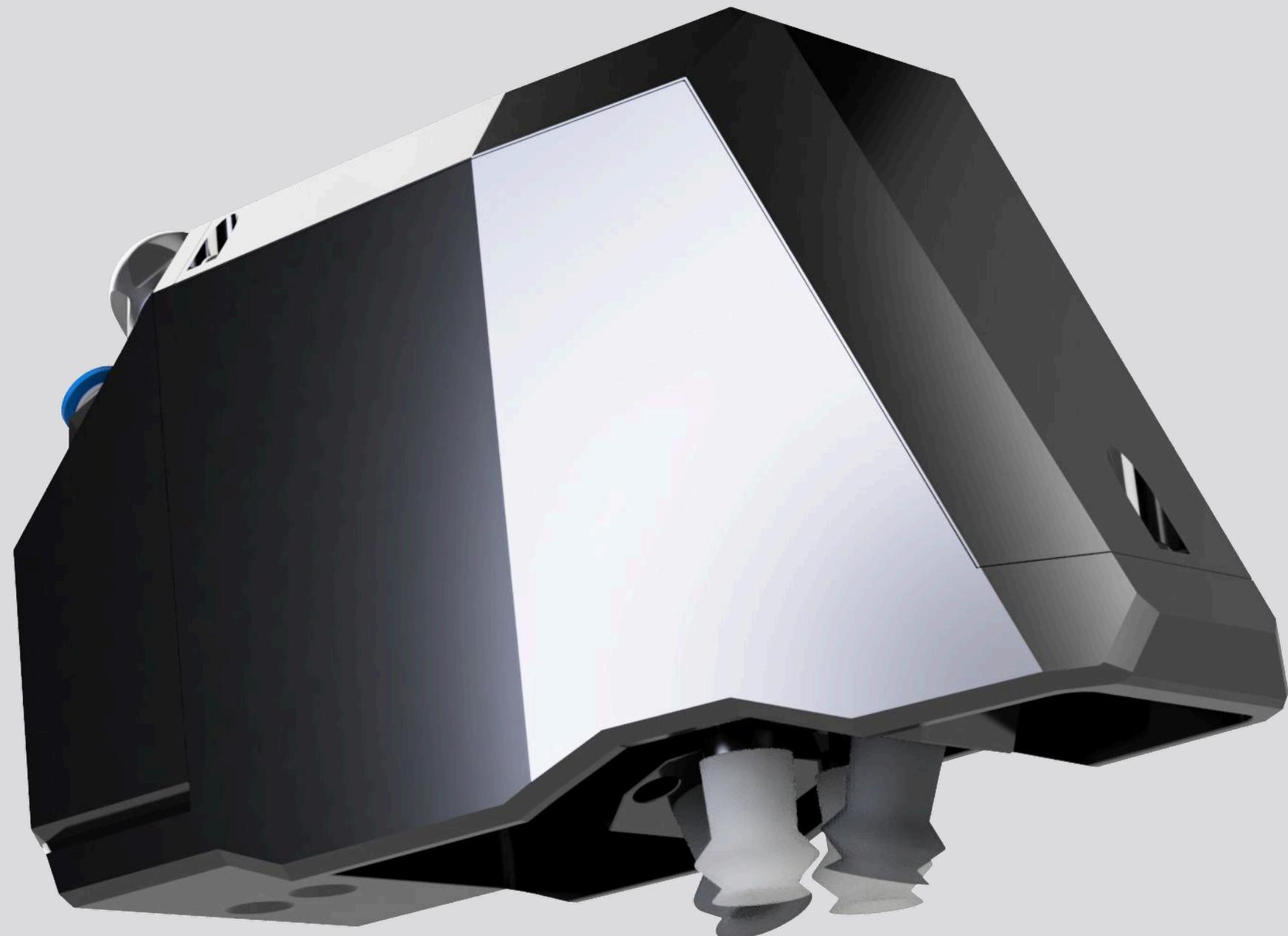
## Specifications

Gas:	O <sub>2</sub>	CO <sub>2</sub>	Temperature:	2 - 30°C
Resolution:	±0.01%	±0.1%	Pressure:	Ambient pressure
Typical precision:	±0.2%	±1%	Housing:	Aluminum
Measuring technique:	HSA/TDLAS		Weight:	8 kg
Measurement time:	4 seconds		Dimensions (HxWxD):	310 mm x 390 mm x 265 mm Height 365 mm for High Arm version
Measurement range:	0 - 100%		Power:	100 - 240V, 50W, 50 - 60Hz AC, 18 - 30V DC
Startup time:	<1 minute		Laser Class:	Class 1, according to IEC 60825-1
Approvals:	CE-marked according to: - EMC 2014/30/EU, - Low Voltage Directive 2014/35/EU	Interfaces:	Touch screen HMI, USB, Service ethernet, Serial RS422	
Container types:	Flexible film bags & pouches, including primary and secondary bags as well as multi-chamber bags	Height versions:	75 mm (packages up to 75 mm height) 135 mm (packages up to 135 mm height)	
Headspace volume:	>3 ml	Required transparent area:	>10mm x 30 mm	
Content:	Oily, milky, transparent liquids	Calibration:	No product specific calibration required	
Bag volume:	100 - 5000 ml			



# AutoMap™

Sensor module for non-destructive in-line measurements



# AutoMap™

For non-destructive 100% inline quality testing. The AutoMAP™ allows fast and easy testing of transparent packages.

The film is attached to the sensor module using vacuum. The laser light is sent into the headspace of the package and the oxygen concentration is measured using TDLAS technology. The measurement is done non-destructive to the package.

- Non-destructive MAP testing
- O<sub>2</sub> measurements
- High or residual O<sub>2</sub> measurements
- Parameter free
- Completely eye safe
- Easy to adjust to different package sizes



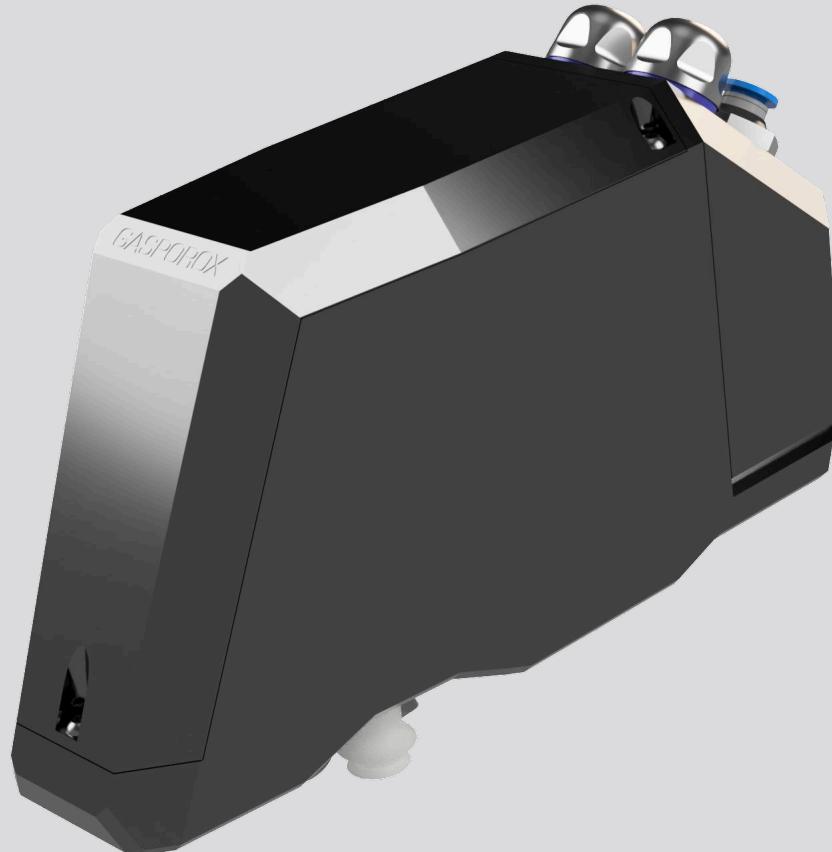
100 % inline, non-destructive headspace oxygen analysis of flexible film packaging, integrated seamlessly into your production line

## Instrument specifications

Headspace volume:	>10 ml
Required transparent area:	>30 mm x 30 mm
Supported package type:	Flexible and transparent packages, one flexible film side required. Packages like trays, thermoforms, bags, flow wraps, pouches.

## Application specifications

Gas:	O <sub>2</sub>
Measuring technique:	TDLAS
Measurement range:	0 - 100% O <sub>2</sub>
Measurement time:	Adjustable down to 50 ms measurement time
Full test cycle:	Typically 1 sec
Precision and accuracy:	±0.1% O <sub>2</sub> Dependent on measurement time
Approvals:	CE-marked according to: - EMC 2014/30/EU, - Low Voltage Directive 2014/35/EU
Temperature:	2 - 30°C
Communication interfaces:	Serial RS422, Digital outputs
Housing:	Sensor head: Aluminum, Electronic box: stainless steel
Weight:	Sensor head: 1 kg Electronic box: 2 kg
Dimensions (HxWxD):	Sensor head: 90 mm x 170 mm x 70 mm, Electronic box: 90 mm x 200 mm x 200 mm
Power supply:	18 - 30 V DC
Laser Class:	Class 1





Ensuring quality inspection  
where it matters the most



A close-up, high-angle shot of a food packaging machine. A transparent plastic sheet is being applied to a muffin on a conveyor belt. The machine is made of stainless steel and features various mechanical components like rollers, a blue circular component, and a dial gauge. The background is blurred, emphasizing the machine's operation.

Food solutions



# Plastic film

Plastic film packaging, including trays, pouches and flow wraps, is designed to preserve product quality and extend shelf life. These flexible packages rely on secure sealing and stable gas composition to protect the contents. Even small imperfections such as microtears or incomplete seals can cause oxygen ingress or gas loss, leading to spoilage, oxidation or reduced freshness. Maintaining seal integrity is essential to ensure consistent quality and product stability.

# GPX1500 Film Food

Non-destructive Headspace Analyzer for  
Modified Atmosphere Packaging (MAP)



# GPX1500 Film Food

Non-destructive at-line, storage or laboratory quality testing. GPX1500 Film Food allows quick and easy testing of transparent food packages. The result is presented immediately on the screen and logged internally. The nondestructive measurement lets you return the samples to the production line with no waste. Several types of transparent packages are supported, including sealed trays, thermoforms, bags, flow wraps, and many others. Both O<sub>2</sub> and CO<sub>2</sub> analyzers are available.

The package is placed manually on the instruments. The operator is lowering down the test head to touch the film. By pressing the measure button, the film is formed to access the headspace with the laser and the headspace oxygen content of the package is measured. The gas concentration is displayed on the touchscreen.



## Applications



### Application specifications

Headspace volume:	>10 ml
Required transparent area:	>10 mm x 30 mm
Supported package type:	Sealed trays, thermoforms, bags, flow wraps, pouches
Film type:	Flexible and transparent, one flexible film side required
Content:	Wide product range, ex: salads, meat, tortilla, pasta and more.
Calibration:	No product specific calibration required

### Instrument specifications

Gas:	O <sub>2</sub> , CO <sub>2</sub>
Measuring technique:	TDLAS
Measurement range:	0 - 100% O <sub>2</sub> , CO <sub>2</sub>
Measurement time:	Adjustable, typically 4 seconds
Resolution:	±0.1% O <sub>2</sub> (±0.1% CO <sub>2</sub> )
Typical precision:	±0.05% O <sub>2</sub> (±1% CO <sub>2</sub> )
Startup time:	<1 minute
Pressure:	Ambient pressure
Interfaces:	Touch screen HMI, USB, Ethernet, Service Ethernet
Housing:	Aluminum
Weight:	Approximately 8 kg
Power:	Primary: 100 - 240 V AC, 50 W, 50/60 Hz
Laser Class:	Class 1
Dimensions (HxWxD):	310 mm x 390 mm x 265 mm
Approvals:	CE-marked according to EMC 2014/30/EU, Low Voltage Directive 2014/35/EU
Height versions:	75 mm (for packages up to 75 mm height), 135 mm (for packages up to 135 mm height)



# CellSpect

Leak detection sensor module

# CellSpect

The Gasporox sensor module CellSpect offers a non-destructive module for leak detection to be integrated into your inspection machine. The module is fast and detects emerging CO<sub>2</sub> of leaking packages.

General Sensor Specification	
Gas:	CO <sub>2</sub>
Measurement range:	0 - 100% CO <sub>2</sub>
Startup time:	<1 min
Sensor IP Classification:	IP 67
Cell Volume:	129 cm <sup>3</sup>
Transmitter box (HxWxD):	180 mm x 85 mm x 68 mm, 1.3 kg
Receiver box (HxWxD):	127 mm x 125 mm x 90 mm, 1.0 kg
Full setup (HxWxD):	590 mm x 220 mm x 130 mm, 6.6 kg
Gas connection diameter:	19.5 mm outer diameter
Communication interface	Serial RS422, Modbus TCP/IP, Digital reject
Measurement time:	40 ms
Measurement performance:	ppm CO <sub>2</sub> increase is detected
Sensitivity:	1 ppm at 40 ms
Laser class:	Laser Class 1, according to IEC 60825-1
Electrical Primary:	100 - 240V, 10W AC, 50 - 60Hz
Electrical Secondary:	18 - 30V DC

## Features:

- Top performance for leak detection of packages with MAP
- Easy integration
- Compatible with most interfaces
- Long life-time
- Robust
- Accurate
- Design according HACCP guidelines



**GASPOROX**  
LASER SENSOR PACKAGE SOLUTIONS