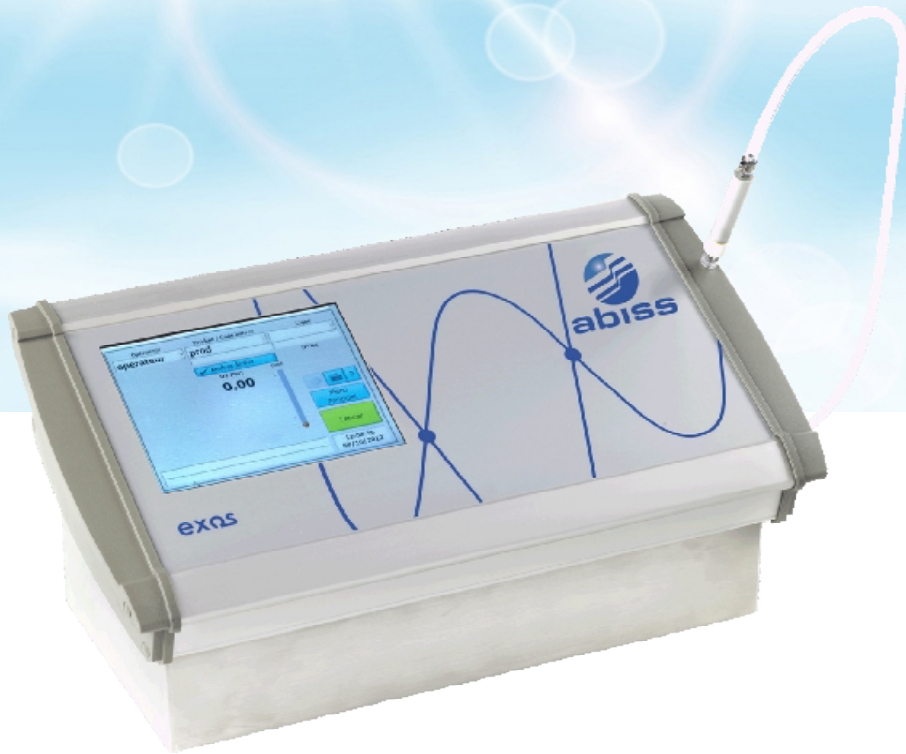




abiss
Open System



1 TEST DEVICE FOR
Gas Analysis
Leak &
Seal Strength

exos



abiss® Registered trademark

FOR CONTROL OF PACKAGING INTEGRITY

- ACCURACY OF MEASUREMENT AND USER-FRIENDLY
- MANAGING AND OPTIMIZING PRODUCTION SETTINGS
- 1 INSTRUMENT - 3 TESTS : GAS ANALYSIS O₂ AND/OR CO₂, MICRO-LEAKS & BURST
- FULLY DIGITIZED TRACEABILITY

ACQUIRE A SCIENTIFIC METHOD - OBJECTIVE AND RELIABLE
SENSITIVITY **DOWN TO 5 µm**

The answer to your problems related to integrity and improvement of your packages, Exos merges innovation and a user-friendly interface to focus on **production optimization**.

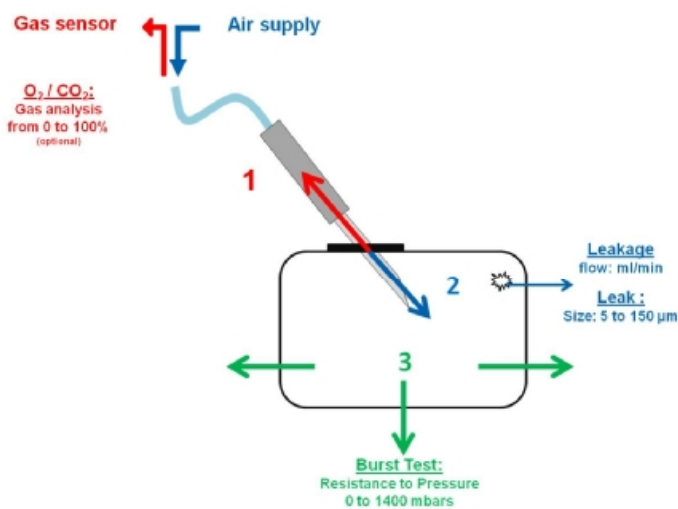
Three key features make this instrument invaluable:

METHOD OF MEASUREMENT, USER-FRIENDLY, AND CONTROL

Rational METHOD OF MEASUREMENT

Exos measures and quantifies the integrity of your packages and helps in setting up essential parameters of process control for any kind of package (soft bags, thermoformed, semi-rigid, metal boxes, MAP, and vacuum packed).

The analysis is made in **1 test with only 1 sample**, and includes **3 steps of measurement**



1. GAS ANALYSIS :

Exos samples a low volume of gas coming from the headspace and gives the rates of **O₂ and/or CO₂ - in % V/V**.

This step is dedicated to MAP applications. Exos is also available without gas analysis.

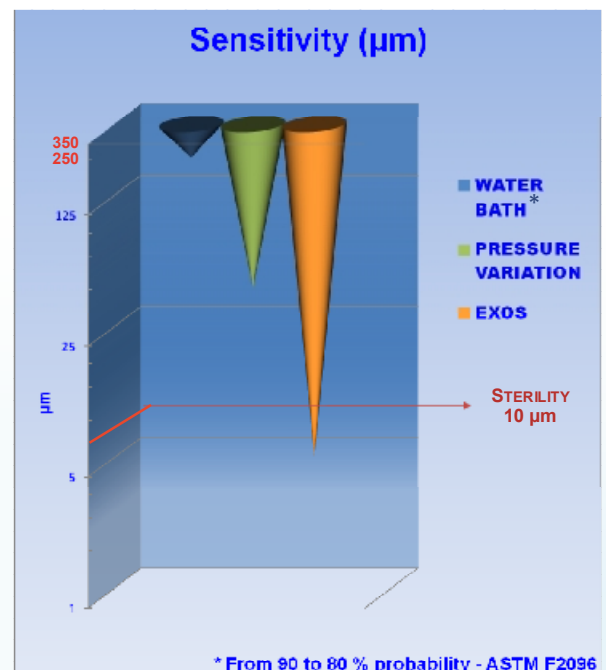
2. LEAK RATE :

Exos principle of measurement is based on flow to quantify the leak rate of your package.

A pressure is introduced inside the package by injecting air. Leaks are overcome by a constant flow injected to compensate for the pressure drop.

Exos measures leak rate in **ml/min**, converted to an estimation of size (diameter of pinhole).

Exos is able to measure pinholes as small as **5µm**, at low overpressure.



3. BURST TEST :

Exos characterizes the resistance to opening of your package.

An increasing slope of pressure (from **50 to 1400 mbar**) is applied to the inside of the package until the package bursts.

This quantifies “easy opening”, and clearly identifies the **weakest points** of your package.



A user-friendly digitized traceability ...

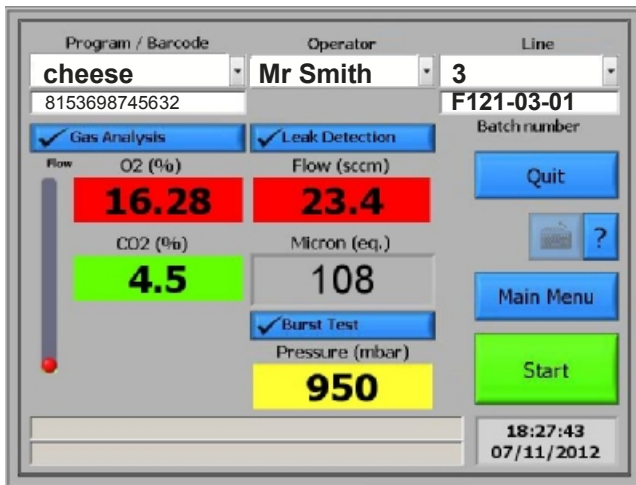
Résultat	O2 (%)	CO2 (%)	Débit (ml/m)	Micron (eq.)	Pression (mbar)	Seuil1 O2	Seuil2 O2	Seuil1 CO2
Mauvais	2,05	18,0	19,2	137	30	>1,00%	XXX	<20,0%
Mauvais	2,60	17,5	135,6	150	30	>1,00%	XXX	<20,0%
Mauvais	3,00	17,0	6,1	15	30	>1,00%	XXX	<20,0%
Mauvais	2,03	18,0	44,0	150	30	>1,00%	XXX	<20,0%
Bon	0,94	21,3	2,0	35	30	>1,00%	XXX	<20,0%
Mauvais	20,39	18,0	---	---	30	>1,00%	XXX	<20,0%
Mauvais	21,05	18,0	5,5	53	30	>1,00%	XXX	<20,0%



USER-FRIENDLY

EXOS can be used on the production floor or in the laboratory.

Therefore, the interface has been designed to be extremely simple and user friendly.



1 single button to press to start the test

1 universal color code

Green/good - Orange/questionable - Red/bad

1 built-in management of records

Spread sheet ready, remote access through the network

CONTROL OF PROCESSES AND METHODS

EXOS helps you understand your packaging process :

- *Optimization of production settings*
- *Control of "easy opening"*
- *Leak detection over time*
- *Control of vacuum packed products back to atmosphere*
- *Optimize Time and temperature of sealing machines*
- *Validation of your new designs, materials, geometry, and raw materials*
- *Validation of production machine set up, new films, and production equipment*

EXOS FITS YOUR REQUIREMENTS

If you are a Packaging Technologist
 Technical – Scientific approach, Flexibility,
 Simulation on packages

If you are a Quality Manager
 Require records, statistics and full traceability, Control of variables,
 Auditability during the complete process of packaging to delivery

If you are a Maintenance or Production Manager
 Reliable test, User friendly, Quick test, Remote maintenance by internet, **24/7**
 Aids in the servicing of your sealing machinery



GAS ANALYSIS

Gas	O ₂	CO ₂
Technology	Electrochemical	NDIR
Accuracy	+/- 1% relative	+/-2% full scale
Resolution	0.01%	0.1%
Sampling time *	6 s (Target 1%)	8 s (Target 90%)

LEAK MEASUREMENT

Technology	Flowmeter	
Accuracy	+/-2% of the full scale	
Repeatability	+/- 0.3 % relative	
Resolution	0.1 ml/min	1 µm
Test pressure	20 to 500 mbar +/- 1 mbar	
Range	0.1 - 500 ml/min	From 5 µm to 300 µm
Inflating flow	4 200 ml/min min. at 20 mbar	

BURST TEST

Technology	Barometric
Accuracy	+/-0.5 % full scale
Resolution	1 mbar
Range	0.05 - 1.4 bar

DEVICE

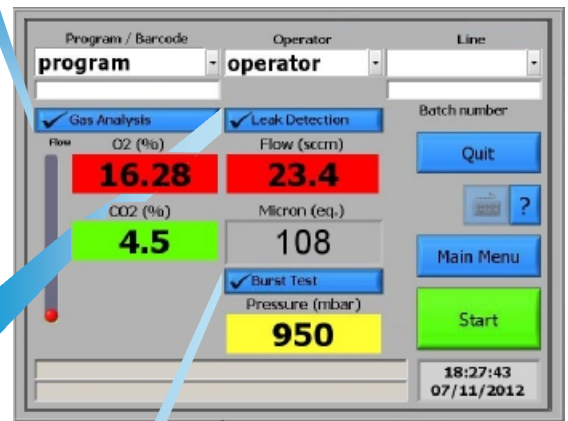
Dimensions	D230 W340 H170	5 kg max
Weight	(mm)	
Memory capacity	From 4 to 32 GB	
Ports	1 USB, 1 Ethernet	
Interface	Color graphic touch panel 5"7 (14.5 cm)	
Power supply	100-230 VAC	4 to 8 bar
Air supply	50-60 Hz	
Temperature	0°C / +40°C – 98 RH	
Ingress Protection	IP 41 (IP 54 optional)	

SUPPLIED KIT

Sampling kit
Filters
Septums / Needles
Detectable stylus

OPTIONAL ACCESSORIES

Calibrated leaks
Bar code reader
Printer
Memory Stick / USB
IP65 Connectors
Keyboard
WiFi kit



Interactive world oriented

AOS Range



FLEXIBLE AND USER-FRIENDLY INTERFACE

REMOTE ACCESS
REMOTE MAINTENANCE 24/7

TOUCH PANEL - COLOR CODE

COMPLETE DIGITIZED TRACEABILITY



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* at atmospheric pressure in referenced air 20.94% O₂—Gas analyzer sampling kit

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