abiss
Open System

1 TEST DEVICE FOR
Gas Analysis
Leak &
Seal Strength

GASTECH
AUSTRALIA

exos

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FOR CONTROL OF PACKAGING INTEGRITY

- ACCURACY OF MEASUREMENT AND USER-FRIENDLY

- MANAGING AND OPTIMIZING PRODUCTION SETTINGS

- 1 INSTRUMENT - 3 TESTS : GAS ANALYSIS O_2 AND/OR CO_2, 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.
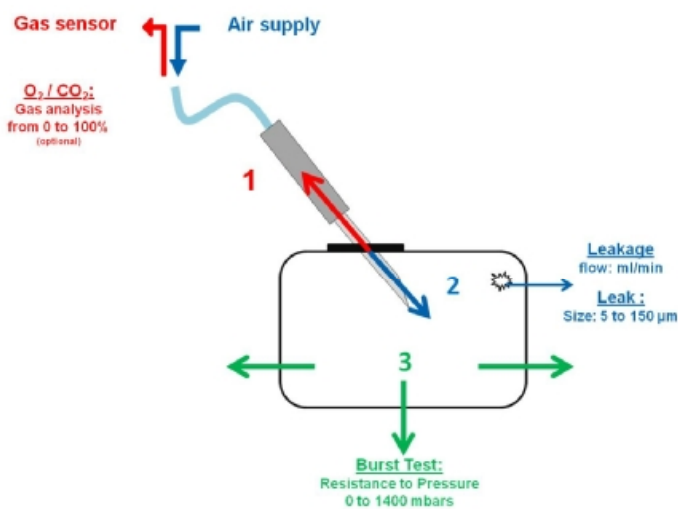
Three key features make this instrument invaluable:
METHOD OF MEASUREMENT, USER-FRIENDLY, AND CONTROL

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

Gas sensor — Air supply

O_2 / CO_2:
Gas analysis
from 0 to 100%
(optional)

1

2

Leakage
flow: ml/min

Leak :
Size: 5 to 150 µm

3

Burst Test:
Resistance to Pressure
0 to 1400 mbars

1. GAS ANALYSIS :

Exos samples a low volume of gas coming from the headspace and gives the rates of **O_2 and/or CO_2 - in % V/V.**

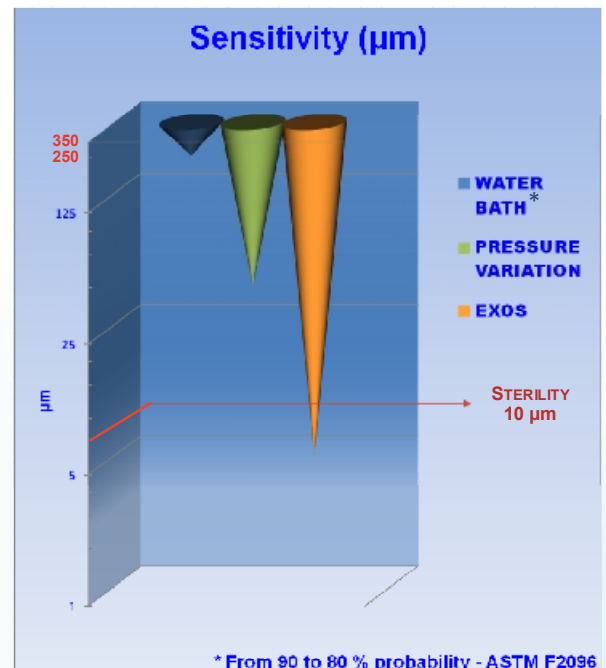This step is dedicated to MAP applications. Exos is also available without gas analysis.

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.

Sensitivity (µm)

350
250

125

25

µm

5

1

■ WATER BATH*

■ PRESSURE VARIATION

■ EXOS

STERILITY
10 µm

*From 90 to 80 % probability - ASTM F2096

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.

Résultat	O2 (%)	CO2 (%)	Débit (ml/m	Micron (eq.	Pression d	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.
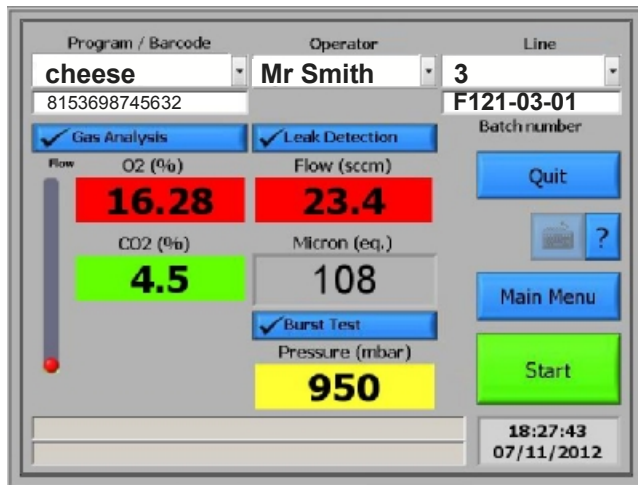
- 1 single button to press to start the test

- 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*

Easy-opening
Technical cut
Pinholes
Sealings
Peeling off

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

Supplied kit	Optional accessories	
Sampling kit	Calibrated leaks	IP65 Connectors
Filters	Bar code reader	Keyboard
Septums / Needles	Printer	WiFi kit
Detectable stylus	Memory Stick / USB	

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For any other inquiry about specifications or advice please contact us

* at atmospheric pressure in referenced air 20.94% O_2—Gas analyzer sampling kit
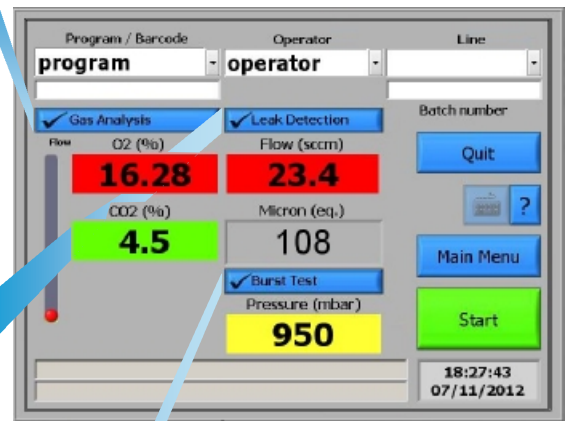
Interactive world oriented

AOS Range

FLEXIBLE AND USER-FRIENDLY INTERFACE

REMOTE ACCESS
REMOTE MAINTENANCE 24/7

TOUCH PANEL - COLOR CODE

COMPLETE DIGITIZED TRACEABILITY

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