

# THE **LEAK & SEAL INTEGRITY** GUIDE

DANSENSOR®  
COMPLETE  
INTEGRITY

# WHY THIS GUIDE?



It is a defining (and vulnerable) moment when your packaged product meets the consumers. That's when your brand is literally in their hands.

The complete consumer experience with taste, aroma, visual appeal and packaging are vital for how the brand is perceived. Maintaining package integrity is a crucial prerequisite for ensuring this experience. Testing package integrity with leak and seal detection tests minimizes the risk of exposing consumers to defective packages.

This guide gives you a quick summary of the essentials of leak and seal integrity – a vital part of your quality control process. The value of your product is only as good as your leak handling.



# IT'S RISKY BUSINESS TO LEAVE **YOUR QUALITY CONTROL TO THE CONSUMER**



Consumer satisfaction depends on your product maintaining its taste and appearance from factory to retail to home.

If your package integrity is compromised, it may affect the shelf life and your product may be disposed of, or worse, purchased and fail to meet expectations – and consumers might never give you a second chance.

Failure to properly detect leaks can decrease consumer satisfaction and damage your brand.



Talk to an expert about leak detection



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# THE VALUE OF YOUR **MODIFIED ATMOSPHERE PACKAGING (MAP) PROCESS** IS ONLY AS GOOD AS YOUR LEAK DETECTION



MAP

Leak Detection



**Your investment in MAP packaging is to extend shelf life by ensuring a proper mix of O<sub>2</sub>/CO<sub>2</sub>/N<sub>2</sub>. But without proper leak detection, you can't ensure the gas mixture is correct and consistent throughout your product lifecycle.**

**In other words, proper leak detection validates the effectiveness of your MAP packaging process — saving money and reducing waste.**



*Different food products requires different gas mixes of O<sub>2</sub>/CO<sub>2</sub>/N<sub>2</sub>. We can provide you with the overview of the best gas mixtures for your products.*

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# UNSEEN LEAKS CAN REDUCE SHELF LIFE - **DID YOU KNOW THAT LEAK SIZES MATTERS?**

**A leak of 100 microns (twice the diameter of a human hair) can bring the O<sub>2</sub> level in your package to ambient in less than a week.**

**A leak of 50 microns can bring the O<sub>2</sub> in your package to ambient in one or two weeks.**

**Dansensor® LeakPointer® 3 and Dansensor® LeakPointer® 3+** leave no leaks unnoticed. They are highly accurate and able to carry out non-destructive leak detections of leak sizes down to 50 µm. This makes them indispensable in packaging lines using MAP, where undetected leaks can be costly and cause damage to the consumer relationship. The Dansensor LeakPointer 3 and Dansensor LeakPointer 3+ are both approved to carry out leak detection in the food industry.



**Talk to an expert about leak detection**

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# DETECTION VS LOCATION LOCATING THE LEAK IS EQUALLY IMPORTANT TO DETECTING IT

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**Complete Integrity**  
*Leak detection is an essential part of quality control. But knowing the exact location of the leak can be invaluable.*

## LEAK DETECTION

**Dansensor® LeakPointer® 3** performs non-destructive leak testing based on CO<sub>2</sub> as a trace gas. Dansensor LeakPointer 3 can detect leaks sizes down to 50 micron, less than the diameter of a human hair.



## LEAK LOCATION

**Dansensor® LeakPointer® H2O** helps you conduct visual leak tests (bubble test) on all types of flexible, semi-rigid and rigid packages, regardless of whether they have ample headspace.

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# SEAL INTEGRITY IS USUALLY THE WEAKEST LINK



Leak detection helps control your seal integrity to ensure the best quality product.

But product particles stuck in the seal, improper sealing or incorrect handling can compromise your package integrity.



*9 out of 10 times, leaks are located at the seal*

*Dansensor® Lippke® 5000 can help you test the seal integrity of many different types of packaging solutions, based on the pressure decay principle. It allows you to compare and characterize different materials, and helps you to set up the right sealing parameters on your packaging lines. Conduct leak/creep/burst and even bubble tests on the same sample with just one instrument.*



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# WORST CASE SCENARIO: COMPROMISED PACKAGE INTEGRITY CAN LEAD TO **EXPENSIVE PRODUCT RECALLS**

The direct costs of an actual recall generally include:

- Notifying retailers
- Returning products (reverse logistics)
- Storing and disposing of contaminated or mislabeled products
- Litigation costs
- Possibly government fines
- Lost sales

In addition, though it's hard to quantify, the trust in your brand will certainly be damaged. Bad news travels fast today, thanks to social media and the availability of media to all consumers. If you don't take control over your brand, the consumer will.

*Fixing a damaged brand reputation takes far more resources than preventing it from happening.*



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# TEAM UP WITH THE BEST

## **Ensure the safety of package systems and the products they protect**

Packed products experience many potentially damaging forces from production until they end on the shelves. Therefore, it is vital to test your package in real-world conditions to ensure a package with the highest integrity.

A sub-category of quality control, package integrity testing encompasses testing of leak, seal strength, burst, and the permeability of barriers. These tests are used to protect your product against recalls and secure the best possible shelf life.

## **Proven solutions and technology**

At Ametek Mocon we are a leading supplier of packaging integrity testing equipment which detects leaks and pinpoints seal integrity challenges. With our package integrity equipment, we help packaging designers, brand owners, production managers and

manufacturers deliver safe products quickly and cost effectively. With more than 50 years in the business, we have solid experience meeting the needs of the food & beverage industry, as well as the medical and pharma industries where contamination poses a safety and health risk. We are experts in MAP and can advise on all applications where physical stresses, microbiological growth and chemical exposure create challenges with shelf life and customer satisfaction.

## **We'd like to hear from you**

AT AMETEK MOCON, our support, service, and application teams are available to assist you.

Get in touch to learn more about how our solutions can support your packaging integrity testing process taking you one step ahead of the competition.



**Let's have a meeting**

**CLICK HERE**