



## Sensistor ISH2000 HySpeed™ In-line leak testing of packages

### TAKE THE STATISTICAL GUESSWORK OUT OF YOUR QUALITY CONTROL

The Sensistor ISH2000 HySpeed Hydrogen Leak Detector is a fast, reliable method for in-line leak testing that can match the filling speeds of modern packaging machines. It is designed to eliminate the need to take samples at regular intervals, leak test manually offline and trust your product integrity to statistical uncertainty. No more time-consuming manual testing, rejected production batches, and costly follow-up on product complaints. Sensistor ISH2000 HySpeed upgrades leak detection from statistical guesswork to measured reality through the testing of each and every packaged product.

### LEAK DETECTION AT FULL PRODUCTION SPEED

The Sensistor ISH2000 HySpeed was developed from the proven ISH2000 family of hydrogen leak detectors and adapted for rapid automated leak detection in packaging lines. The leak detection process is built on the revolutionary Sensistor technology that uses diluted hydrogen as tracer gas. The unique method (patent pending) now makes it possible to perform more leak detections per second in each feed channel and is ideal for packaging lines with extremely high capacity.

The Sensistor ISH2000 HySpeed comprises a compact, panel-mounted instrument and a wired sampling probe. For a complete test station, it is normally also necessary to install equipment for handling the packages and for communication with the leak detection instrument. For optimum performance it is recommended that this equipment is designed in cooperation with the company that supplies the packaging machine.

### PROPERTIES

- ▣ Rapid in-line leak testing – up to 4 measurement cycles per second per detector channel
- ▣ Unique measuring method using Sensistor technology with diluted hydrogen as tracer gas
- ▣ Leak-tests each package after filling and sealing
- ▣ Significantly improves quality assurance
- ▣ Immediate detection of process deviations reduces the risk of having to reject entire production batches
- ▣ Eliminates the need for time-consuming manual leak testing
- ▣ Inexpensive and renewable tracer gas – the same price level as N<sub>2</sub> and CO<sub>2</sub>
- ▣ Approved as a food additive (E949, E941)
- ▣ Compact equipment, simple to integrate into the production line

## HOW IT WORKS

**FILL, SEAL AND TEST EACH AND EVERY PACKAGE**

The in-line leak testing principle is both simple and cost-efficient. Once the package is filled with product, a small volume of tracer gas is added immediately before it is sealed. During the leak test, the package passes the hydrogen leak detector sensor. The package must feature slight over-pressure for it to be possible to take measurements. In some cases, this can be generated by the enclosed product itself, or by applying light mechanical pressure to the package. Any leakage of hydrogen will be registered immediately by the sensor and the value will be compared with a pre-set limit value. If the limit value is exceeded, the instrument transmits an alarm signal that can automatically control package rejection.

**UNIQUE MEASUREMENT PROPERTIES WITH SENSISTOR TECHNOLOGY**

All Sensistor ISH2000 hydrogen leak detectors feature a micro-electronic sensor that is positioned in the tip of the sampling probe and reacts only to hydrogen. This provides an instrument with a fast response time and high sensitivity. Additionally, the instrument contains no moving parts and is therefore practically maintenance-free.

The tracer gas is a safe and inexpensive standard mix of 5% hydrogen (E949) and 95% nitrogen (E941). These gases are commonly used as packaging gases and have been approved as food additives – even for baby food. Hydrogen is an ideal tracer gas that quickly disseminates throughout the package, forces its way through tiny leaks and rapidly disperses from the test area in the event of a leak.

**BOTTLES, JARS, BAGS, TRAYS, TUBES...**

In principle, in-line leak testing with the Sensistor ISH2000 HySpeed suits all types of packaging where it is possible to create over-pressure for the enclosed tracer gas so as to permit leak testing. All types of flexible plastic packaging, such as bottles, bags for powders and creams, bag-in-box bags, trays and tubes can be tested. In addition, many types of metal packaging can be compressed sufficiently to generate over-pressure. The method can also be used on packages that are subjected to pressure during filling, or where the contents themselves generate over-pressure.

For the leak testing of tubes, the system is marketed exclusively by Norden Machinery, a world-leading supplier of tube-filling systems.



In-line leak testing of tubes with Sensistor ISH2000 HySpeed