

## LEAK DETECTION SYSTEM LEAK-MASTER® ONE



► Video

**The LEAK-MASTER® ONE is an in-line system for highly sensitive leak testing of individual MAP packages (one by one) using CO<sub>2</sub>. The system tests each package immediately after the packaging process and combines precise leak detection at the micrometre level with a high testing throughput of up to 120 packages per minute.**

The LEAK-MASTER® ONE uses CO<sub>2</sub> as a tracer gas. The packages are positioned individually in test chambers using pick-and-place robotics and subjected to a defined vacuum. Any CO<sub>2</sub> escaping through minute leaks causes a measurable rise in concentration within the chamber, which is reliably detected by a highly sensitive CO<sub>2</sub> sensor.

Leaky packaging is clearly identified. In the event of a leak detection, various potential-free contacts are available for communication with upstream and downstream systems, via which, for example, alarms and/or pushers can be triggered and faulty packaging can be specifically diverted. This ensures that no leaky packages reach the customer.

The result: fewer re-inspections, less waste, greater product safety, fewer complaints, as well as increased trust and long-term customer loyalty.

### Benefits

- highly sensitive individual packaging testing (one-by-one) using CO<sub>2</sub>
- combines high testing accuracy with high speed
- detection of micro-leaks as small as 10 µm, depending on application conditions
- up to 120 cycles per minute, depending on packaging type, leak size to be detected, CO<sub>2</sub> content (min. 10% CO<sub>2</sub>) and gas volume in the package
- unambiguous leak identification and targeted ejection of leaky packages
- for flexible and rigid packaging
- various chamber inlays optimised for different packaging formats
- simple, intuitive operation via integrated PLC with touchscreen
- complete quality documentation and data transfer via Ethernet
- robust, easy-to-maintain stainless steel housing with acrylic doors in the upper section

**Other models, options and accessories available upon request.**

# LEAK DETECTION SYSTEM

## LEAK-MASTER® ONE



<b>Type</b>	LEAK-MASTER® ONE
<b>Machine type 6</b>	6 Mini vacuum chambers
<b>Machine type 12</b>	12 Mini vacuum chambers
<b>Conveying width</b>	150 - 430 mm
<b>Drive Mechanism</b>	frequency-controlled belt conveyor
<b>Measuring System</b>	infrared sensor for CO <sub>2</sub>
<b>Leak size measurements</b>	10 µm
<b>Measuring range</b>	0 ppm – 5 000 ppm (resolution: 1 ppm)
<b>Response time</b>	approx. 1 sec.
<b>max. CO<sub>2</sub> concentration in ambient air</b>	2 500 ppm (fluctuating CO <sub>2</sub> values impair measurement accuracy)
<b>Leak testing cycle</b>	
<b>Machine type 6</b>	max. 60 measures/min.
<b>Machine type 12</b>	max. 120 measures/min. depends on leak size, CO <sub>2</sub> -percentage in package
<b>Operating vacuum</b>	up to 200 mbar abs.
<b>Temperature range</b>	5 – 40 °C (41 – 104 °F)
<b>Humidity of ambient air</b>	max. 90% at 20 °C (68 °F) / max. 50% at 40 °C (104 °F)
<b>Alarms</b>	potential free contact; max. 250 V AC or 24 V DC / 2 A
<b>Communication</b>	- data communication via Ethernet - digital output for take-over cycle - digital output for pusher unit
<b>Compressed air connection</b>	Plug nipple NW7.2 for compressed air coupling / 6 – 8 bar
<b>Housing</b>	stainless steel
<b>Weight</b>	
<b>Machine type 6</b>	approx. 1 400 kg
<b>Machine type 12</b>	approx. 2 200 kg
<b>Mini vacuum chambers</b>	
<b>Test chamber width</b>	240 mm
<b>Test chamber height</b>	90 mm (max. package height = chamber height - 10 mm)
<b>Test chamber length</b>	450 mm (max. package length = chamber length - 20 mm)
<b>Total length</b>	
<b>Machine type 6</b>	1 500 mm
<b>Machine type 12</b>	2 200 mm
<b>Total width</b>	1 760 mm
<b>Total height</b>	approx. 2 200 mm
<b>Take-over-height</b>	approx. 800 mm
<b>Power consumption</b>	400 V - 50 Hz, 3 Ph/N/PE
<b>Approvals</b>	Company certified according to ISO 9001 and ISO 22000 CE-marked according to: - EMC 2014/30/EU - Low Voltage Directive 2014/35/EU - Machines Directive 2006/42/EC