

# LEAK DETECTION SYSTEM

## LEAK-MASTER® EASY



**Leak detection “bubble test” for packages.**

**LEAK-MASTER® EASY features detection of even the smallest leaks.**

**After the package is placed into the test chamber filled with water, the head space above the water level is evacuated. This is done with the help of a compressed air operated Venturi nozzle (optionally also with electric vacuum pump). Thus, the package immersed in the water inflates, allowing any leaks and their location to be identified by a stream of bubbles.**

### Benefits

- economical and uncomplicated
- visual inspection allows localization of the leak
- for all flexible and rigid packaging types
- short testing time (< 30 sec.)
- easy-to-use intuitive system – no special skills required
- easy installation and start-up
- no trace gas required in the package
- can also be used for altitude simulation
- optional accessory for vacuum packaging, vacuum set: Part No. 956992700 (-> p. 6)
- no calibration required
- various chamber sizes available
- a vacuum relief valve protects the device against deep vacuum (-> p. 6)
- low maintenance
- durability and easy to clean by acrylic housing
- standard with compressed air driven Venturi nozzle (without electrical connections)
- optionally with electrical vacuum pump (-> p. 3)



further information on  
[www.leak-master.net](http://www.leak-master.net)

<b>Type</b>	LEAK-MASTER® EASY
<b>Testing principle</b>	visual
<b>Calibration</b>	not required
<b>Vacuum</b>	max. 200 mbar (2.9 psi) abs. (approx. -800 (-11.6 psi) to ambient pressure), adjustable; special version till 100 mbar abs.
<b>Vacuum generation</b>	compressed air powered venturi injector option: electrical vacuum pump
<b>Compressed air pressure</b>	min. 6 bar (87 psi), max. 8 bar (116 psi)
<b>Connection</b>	G 1/4
<b>Accessories (incl.)</b>	hose connection OD 8 mm hose connection OD 12 mm adapter G 1/4 M to 1/4" NPT
<b>Housing</b>	Acryl Plexiglas® - especially robust and special refined against turn yellow
<b>Approvals</b>	Company certified according to ISO 9001 and ISO 22000 for food-grade gases according to: Regulation (EC) No 1935/2004

### Our manyfold accessories:








- Control unit PLUS: portable controller with various predefined measurement programmes, also for documentation of your measuring results (-> p. 4)
- Vacuum testing set: for testing vacuum packaged products and products with low gas volumes (-> p. 6)
- AD100: calibrated pressure gauge with DKD/ DAkkS-certificate (-> p. 6)
- Vacuum holding valve: blocks the chamber after generation of vacuum. Perfect for longer test periods without permanent use of compressed air (-> p. 6)
- supplementary set: for testing according ASTM F2096 (Bubble Test) (-> p. 6)

*Find more details of accessories on the following pages.*

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## LEAK-MASTER® EASY



Models	inner chamber size approx. in [mm] (inches) (HxWxD)	overall dimension approx. in [mm] (inches) (HxWxD)	Weight approx. in [kg] (lb)
 <b>EASY 0.5</b> Part No. 5901LME-001-MINI	115 x 305 x 195 (4.5 x 12.0 x 7.7)	485 x 440 x 300 (19.1 x 17.3 x 11.8)	15.5 (34)
 <b>EASY 1</b> Part No. 5901LME-001	165 x 305 x 195 (6.5 x 12.0 x 7.7)	535 x 440 x 300 (21.1 x 17.3 x 11.8)	17 (37)
 <b>EASY 1.5</b> Part No. 5901LME-002-MINI	145 x 505 x 310 (5.7 x 19.9 x 12.2)	520 x 650 x 420 (20.5 x 25.6 x 16.5)	31,5 (69)
 <b>EASY 2</b> Part No. 5901LME-002	205 x 505 x 310 (8.1 x 19.9 x 12.2)	580 x 650 x 420 (22.8 x 25.6 x 16.5)	35 (76)
 <b>EASY 3</b> Part No. 5901LME-003	275 x 525 x 360 (10.8 x 20.7 x 14.2)	660 x 705 x 485 (26.0 x 27.8 x 19.1)	55 (121)
 <b>EASY 4</b> Part No. 5901LME-004	320 x 625 x 500 (12.6 x 24.6 x 19.7)	900 x 840 x 630 (35.4 x 33.1 x 24.8)	108 (238)
 <b>EASY 5</b> Part No. 5901LME-005	340 x 760 x 500 (13.4 x 29.9 x 19.7)	920 x 970 x 630 (36.2 x 38.2 x 24.8)	120 (265)

The LEAK-MASTER® EASY Leak Detectors can be used to perform a variety of ASTM test methods for detecting leaks and seal integrity.	
<b>ASTM D3078</b>	Standard Test Method for Determination of Leaks in Flexible Packaging by Bubble Emission
<b>ASTM D4169</b>	Standard Practice for Performance Testing of Shipping Containers and Systems
<b>ASTM D4991</b>	Standard Test Method for Leakage Testing of Empty Rigid Containers by Vacuum Method
<b>ASTM D5094</b>	Standard Test Methods for Gross Leakage of Liquids from Containers with Threaded or Lug-Style Closures
<b>ASTM F2096</b>	Standard Test Method for Detecting Gross Leaks in Packaging by Internal Pressurization (Bubble Test) – using our optional supplementary set (-> p. 6)

LM3 USA - Q03/3L - subject to change

# LEAK DETECTION SYSTEM LEAK-MASTER® EASY



## Version with electric vacuum pump (option)



**All LEAK-MASTER® EASY models can also be operated with an electric vacuum pump - as an alternative to operation with compressed air.**

You only need a power socket for this variant. All other functions are identical to the standard compressed air version. However, the vacuum pump cannot be retrofitted.

When ordering your EASY, you must therefore specify which vacuum method you wish to work with.

<b>Diaphragm</b>	HNBR / Stainless steel	
<b>Max. operating pressure</b>	0.5 bar rel.	
<b>Permissible ambient temperature</b>	+15 °C ... +50 °C, intermittent +70 °C	
<b>Permissible media temperature</b>	+5 °C ... +70 °C, intermittent +100 °C	
<b>Weight</b>	5.2 kg	
<b>Dimensions pump housing</b>	approx. 240 x 184 x 472 mm (9.45 x 7.24 x 18.58 inches) (without connections)	
<b>Voltage</b>	100–120 V	200–240 V
<b>Motor</b>	Capacitor motor	
<b>Protection class motor</b>	IP 00	
<b>Frequency</b>	50 Hz	
<b>Power P<sub>1</sub></b>	190 W	
<b>I<sub>max</sub></b>	2.10 A	1.20 A

# CONTROL UNIT PLUS

## for LEAK-MASTER® EASY



**Controller for leak detector LEAK-MASTER® EASY. In combination with LEAK-MASTER® EASY features non-destructive detection of the smallest leaks without the need of costly helium.**

**Pre-defined measurement programmes, an altitude simulation as well as an user independently quick and continuously working mode characterise this device.**



**Easily connected to your LEAK-MASTER® EASY.**

**A flexible controller to guarantee quality and productivity of production processes.**

### Benefits

- minimal response time
- quick product change
- no calibration required
- simple to operate via touch-screen
- easy installation and start-up
- permanent monitoring of set limit values
- operator friendly – data and process parameter entry and administration by means of integrated keyboard or remote personal computer (e.g. MS-Excel®)
- perfect documentation by complete user- and product data as well as error logs
- data transmission of results as a CSV file and PDF report via Ethernet (browser-based EASY PLUS control software) or via USB stick
- Ethernet connection for network integration
- measured data storage
- administration of product names
- user management for measurement personalization
- individual configurable error codes with identification from type and location of leak

- ideal for altitude simulation testing
- for retrofitting your existing LEAK-MASTER® EASY
- hygienic and easy to clean splash-proof stainless steel cabinet / housing

### Options

- Barcode Reader for simple and quick user/product selection with IP-protection

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

# CONTROL UNIT PLUS

## for LEAK-MASTER® EASY



<b>Type</b>	Control Unit PLUS for LEAK-MASTER® EASY
<b>Vacuum</b>	max. 11.6 psi
<b>Temperature (gas/environment)</b>	32°F up to +104°F
<b>Interfaces</b>	Ethernet (optional WLAN) USB by memory stick for software Update RS 232 with ASCII-output of date, time, measured value RJ45 Ethernet FTP-Server for profiles, product and user data, software Update analog output 4-20 mA or 0-10 V
<b>Housing</b>	stainless steel, IP 43
<b>Weight</b>	approx. 18 lb
<b>Dimensions (HxWxD) with carry handle</b>	approx. 4.3 x 11.8 x 10.2 inches
<b>Voltage</b>	100 – 240 V AC; 50 – 60 Hz
<b>Power consumption</b>	230 V AC / 0.12 A
<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 for food-grade gases according to: - Regulation (EC) No 1935/2004

# LEAK DETECTION SYSTEM LEAK-MASTER® EASY

## Accessories



### Vacuum set

Adapter set for testing vacuum packaged products and products with low gas volumes  
Easy installation and simple handling.



### Vacuum holding valve

With this option the chamber can be blocked after generation of vacuum. Perfect for longer test periods without permanent use of compressed air.

### Calibrated pressure gauge AD100

The calibrated pressure gauge AD100 with DKD/DAkkS-certificate gives more security to the customer at the daily use of LEAK-MASTER® EASY.



### Barcode-Reader

for selection of product names and users via barcode for the electronic control unit PLUS.

Fast and save detection of all product- and user data, for manifold barcode-types, protection class IP 65.

Ideal for process optimization and optimal quality testing.

### Supplementary set

for Standard Test Method according ASTM F2096, for Detecting Gross Leaks in Packaging by Internal Pressurization (Bubble Test) for Standard Test Method according ASTM F2096, for Detecting Gross Leaks in Packaging by Internal Pressurization (Bubble Test).

