TORONTECH

VACUUM LEAK TESTER

Vacuum Leak Tester – ToronVLT™ 3078

Vacuum Bubble Leak Tester for Packages

The ToronVLT™ 3078 is a vacuum leak tester that detects gross leaks in flexible packages and pouches by the bubble emission method. The instrument submerges a package in water inside a vacuum chamber and draws a vacuum, so trapped air escapes from any leak as a stream of bubbles. It gives a clear pass or fail for package and seal integrity and shows where a leak is.

The ToronVLT™ 3078 draws a vacuum to -90 kPa with a high-accuracy pressure sensor and automatic pressure control that hold the set level steady through the test. A touchscreen sets the vacuum and hold time, and a pass or reject result is logged for quick query. The standard chamber suits common pouches, and larger chambers are available.

The ToronVLT™ 3078 (Vacuum Bubble Leak Tester for Packages) suits food, pharmaceutical, and medical packaging QC, where seal and package integrity protect the product. A high-accuracy pressure sensor, automatic balance control, and overload warning support consistent, repeatable testing. The compact benchtop unit needs only a compressed-air supply and water to run.

APPLICATIONS

Vacuum Leak Tester – ToronVLT™ 3078 Applications

The ToronVLT™ 3078 screens sealed packages for gross leaks wherever airtightness protects the product.

- **Food Pouches and Packages**: detects gross leaks in food pouches, bags, and sealed packs that must stay airtight.
- **Pharmaceutical Packaging**: checks blister packs, sachets, and pouches for leaks that would shorten shelf life.

- **Medical and Sterile Packaging**: screens medical pouches for gross leaks that would break the sterile barrier.
- **Seal Integrity Verification**: confirms that heat seals and closures hold under vacuum.
- **Vacuum and Modified-Atmosphere Packs**: verifies the integrity of vacuum and modified-atmosphere packages.
- **Bottle and Container Closures**: checks caps and closures for leaks with the appropriate chamber.
- **Incoming and In-Process QC**: screens packages during production for leak defects.
- **Package Development**: validates new package and seal designs for leak tightness.

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ToronVIT™ 3078
Vacuum Leak Tester
WELCOME
Air Permeability Tester
TEST
SET
STOP
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Standards

The ToronVLT™ 3078 is designed to align with internationally recognized standards for package leak testing by the bubble emission method.

- ASTM D3078 - Standard Test Method for Determination of Leaks in Flexible Packaging by Bubble Emission

Leak-test acceptance depends on the package and the application, so the vacuum level and hold time can be set to a laboratory's chosen protocol.

FEATURES

Vacuum Leak Tester – ToronVLT™ 3078 Key Features

The ToronVLT™ 3078 combines a transparent vacuum chamber with touchscreen control for clear pass or fail leak testing.

- **Bubble Emission Method**: detects gross leaks by the bubble stream that escapes a package under vacuum.
- **Transparent Vacuum Chamber**: a clear chamber lets operators watch for bubbles and locate the leak.
- **Vacuum to -90 kPa**: a standard vacuum range covers common flexible packages.
- **High-Accuracy Pressure Sensor**: precise pressure sensing to 0.1% of full scale supports repeatable results.
- **Automatic Pressure Control**: constant-pressure balance control holds the set vacuum steady through the test.
- **Pass or Reject Logging**: pass and reject results are recorded for convenient query.
- **Touchscreen Operation**: a color TFT touchscreen sets the vacuum and hold time.
- **Selectable Chamber Sizes**: standard and larger chambers suit different package sizes.
- **Overload Warning**: a built-in warning guards the instrument during operation.
- **Low Power Consumption**: the instrument runs on a standard single-phase supply.
- **Optional RS232 Communication**: an optional serial port connects the instrument to a PC.

THEORY & METHOD

Theory and Method

The bubble emission method finds gross leaks in a sealed package by watching for air escaping under vacuum. The package, which holds a headspace of air, is submerged in water inside a sealed chamber. The chamber is then evacuated, which lowers the pressure around the package and makes the trapped air expand and push outward against the seals and walls.

When the package has a leak, the expanding air escapes through the opening and rises through the water as a steady stream of bubbles, marking the leak location. A sound package holds its air, so no continuous bubbles appear. The vacuum level and hold time are set to match the package and the standard.

The test gives a clear pass or fail for package and seal integrity, and it also shows where a leak sits, which helps trace the cause on the line. A high-accuracy pressure sensor and automatic pressure control hold the set vacuum steady through the test. The method suits food, pharmaceutical, and medical packages where a leak would shorten shelf life or break sterility.

TECHNICAL SPECIFICATIONS

Vacuum Leak Tester – ToronVLT™ 3078 Technical Specifications

Parameter	Specification
Vacuum Range	0 to -90 kPa (standard)
Accuracy	0.1% FS
Vacuum Chamber (Standard)	Ø270 mm × 220 mm (H)

Parameter	Specification
Vacuum Chamber (Optional)	Ø360 mm × 590 mm (H); Ø460 mm × 330 mm (H); other sizes customizable
Gas Source Pressure	0.4 MPa to 1.0 MPa (user-supplied)
Gas Interface	Ø6 mm
Vacuum Chamber Outer Size	Ø300 mm × 355 mm (H) (standard)
Main Unit Dimensions	335 mm (L) × 450 mm (W) × 160 mm (H)
Voltage	AC 220 V, 50 Hz (110V is also available)
Net Weight	27 kg (main unit with standard chamber)

Standard Delivery

Item	Description
Main Unit	Vacuum bubble-emission leak test instrument
Vacuum Chamber	Standard transparent vacuum chamber
Spare Tube	Replacement tubing for the vacuum line

Optional Accessories

Item	Description
Larger Vacuum Chambers	Ø360 × 590 mm or Ø460 × 330 mm chambers for larger packages
Custom Vacuum Chamber	Chamber built to a specified size

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