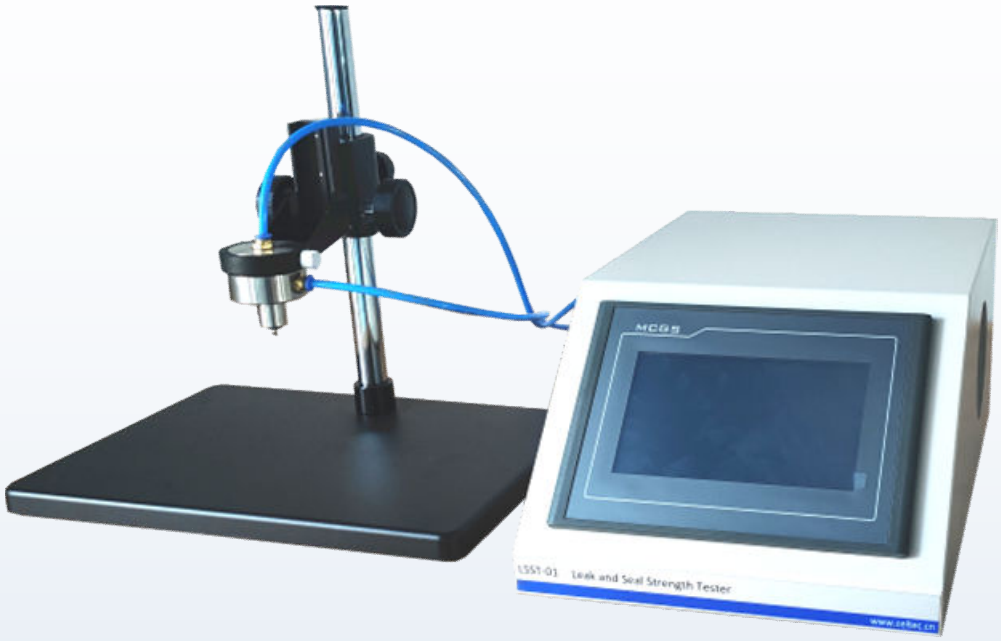
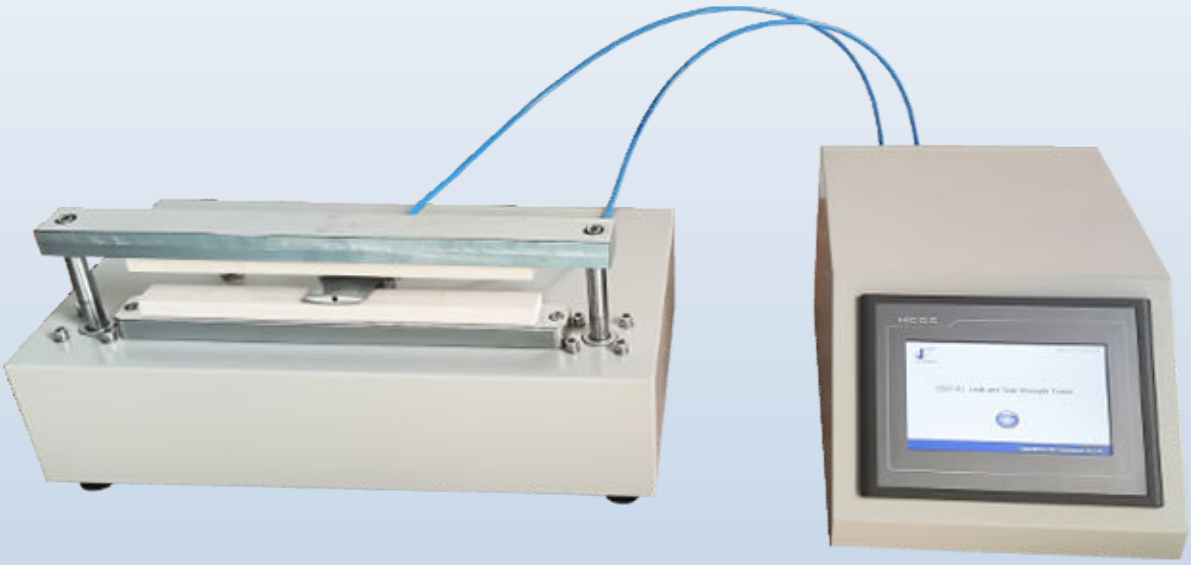
CELL INSTRUMENTS
Material Testing Solutions

LSST-01
Leak and Seal Strength Tester



Unrestrained Closed Package Test



Unrestrained Open Package Test

Ensuring Seal Integrity for High-Quality Packaging

Exceptional versatility, working seamlessly with a wide range of custom jigs.

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Applications

Evaluating the integrity of package seals through pressure decay (internal pressurization) leak testing is essential for confirming that your packaging can reliably protect products. Seal integrity tests not only validate the consistency and reliability of seals but also serve as a crucial step in evaluating sustainable packaging options, cost-effective solutions, and potential variations in the sealing process along the production line. In today's market, maintaining high standards in packaging is vital for upholding product quality and safety.

Industries Served: (Not limited to)

Food packaging (MAP, vacuum-sealed)
Pharmaceutical containers
Cosmetic packaging
Medical device packs
Industrial materials and specialty packaging

Testing Principle

1. Burst Testing: Initially, the sample is subjected to internal pressurization until it reaches the point of rupture or burst. During this phase, the pressure is gradually increased, and the system continuously monitors the sample. The moment the sample fails—meaning it bursts—the peak pressure achieved is recorded as the burst test result.

2. Establishing a Reference Point: The maximum pressure recorded in the burst test serves as a critical reference value. This burst pressure indicates the upper limit of the sample's structural integrity and provides a benchmark for further evaluation.

Based on monitoring the drop in pressure inside the sample over time. Two methods are used.

3. Creep Test: In a creep test, the sample is maintained at a pressure level that is typically set below the burst pressure(Commonly **80%** of it). The goal is to observe how the sample gradually deforms or "creeps" over time under continuous pressure.

4. Creep-to-Failure Test: The pressure is maintained continuously until the package fails. A standard starting point is approximately **90%** of the burst pressure.

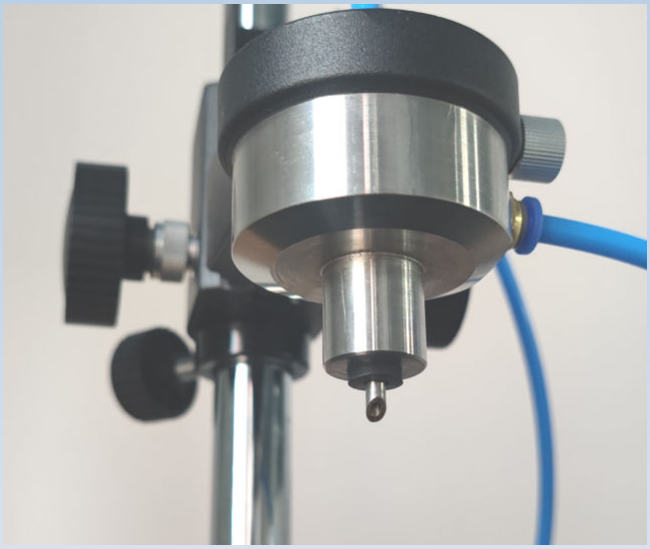
Both creep and creep-to-failure tests rely on the burst test result to define safe yet challenging thresholds.

Results:

Burst Test—*The burst pressure value and location at which failure occurred.*

Creep Test—*The internal pressure at which the package was held and the hold time.*

Creep to Failure Test—*The internal pressure at which the package was held and the time until the package failed.*



Inflating Probe

Specifications

Test Range*	0~600KPa
Open Pack Jig	320mm (standard)
Inflating Probe	Φ4mm
Compressed Air	0.4~0.7 MPa (prepared by user)
Gas Port Size	φ6 mm
Power	AC 110~220V 50/60Hz

Available Jigs

The LSST-01 can work with many standard and customized jigs for different applications and sample forms, such as sachet, bag, pouch, tube, bottle, doy pack, cell battery, jumbo bag, etc.

The jigs include but are not limited to wider open pack jigs, ASTM F2096 jigs, secure burst jigs, doy pack jigs, tube clamps, restraining plates, bottle jigs, cap jigs, etc.

Standards

ASTM F1140
ASTM F2054
ASTM F2096
ASTM F2095
ISO 11607
USP 1207
GB/T 19633
GB/T 10440

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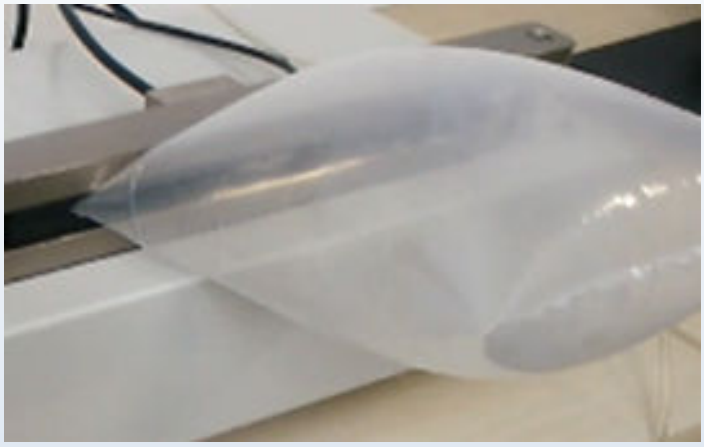
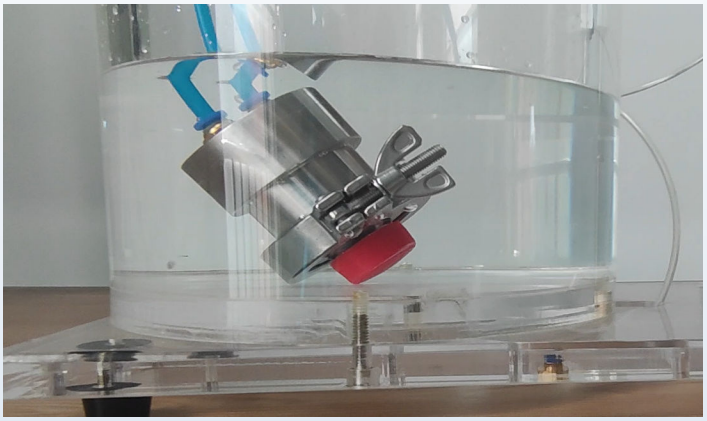
Various Leak Test Methods

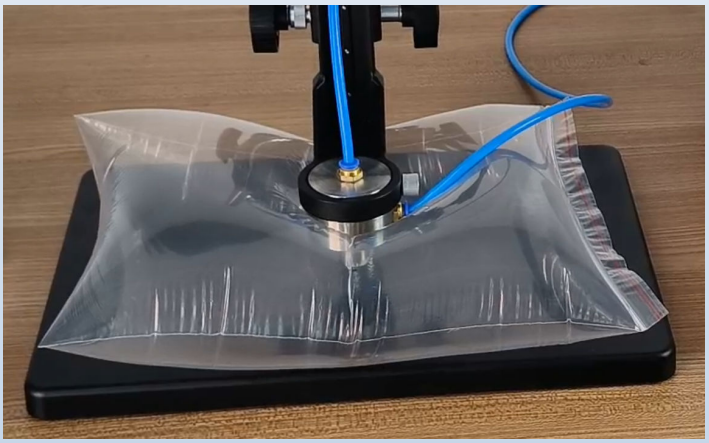
ASTM Standard	Test Type	Common Application	Our Models
D3078	Bubble Emission	MAP, gas-filled, liquid-filled packages	LT-01, LT-02, LT-03
D4991	Bubble Emission	Empty rigid containers	Modified LT-01, LT-02, LT-03
F2096	Pressurization	Gross leak testing	GLT-01
F2338	Vacuum Decay	Flexible and rigid containers	MLT-01
F2054 / F1140	Pressure Decay	Pouches, tubes, blister packs	LSST-01



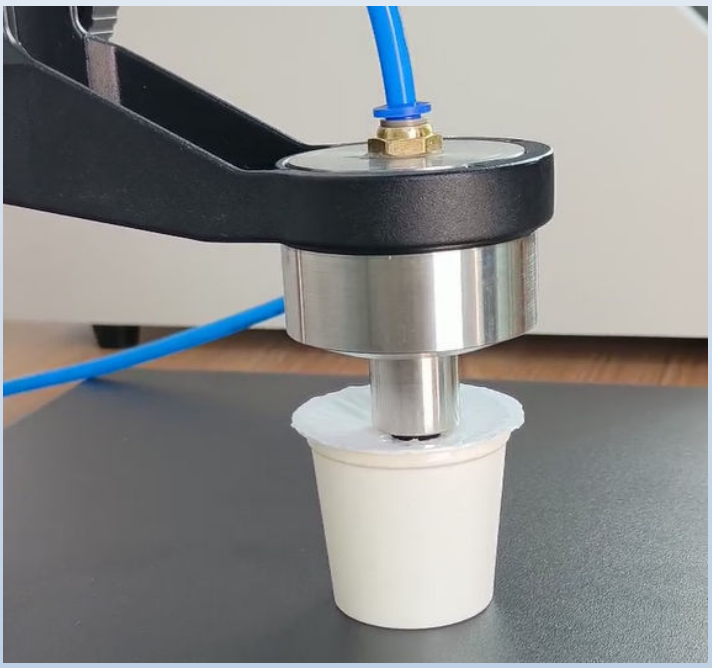
Open Pack Test



Cap on Preform Test

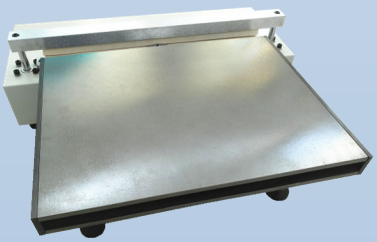


Closed Pack Test



Tray Test

Spout Pouch Test



Restraining Plates

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