



## HST-01 Heat Seal Tester

### Application

A heat sealer is a machine that employs heat to seal products, packaging, and thermoplastic materials. Heat sealing involves uniting thermoplastics through heat and pressure. Items like plastic bags and packaging are commonly shaped and sealed with heat sealers.

A Heat Seal Tester, designed for laboratory use, is a compact heat sealer. Its purpose is to assess the heat sealability of surfaces, sealant layers in films, laminates, polymers, and composites. Achieving effective seals involves three parameters: time, temperature, and pressure. The heat seal tester recreates the sealing process by controlling these parameters.

The strength of seals in flexible packaging serves as an indicator of both functional performance and ease of opening.

### Standard

ASTM F2029-16(2021) .Standard Practices for Making Laboratory Heat Seals for Determination of Heat Sealability of Flexible Barrier Materials as Measured by Seal Strength.

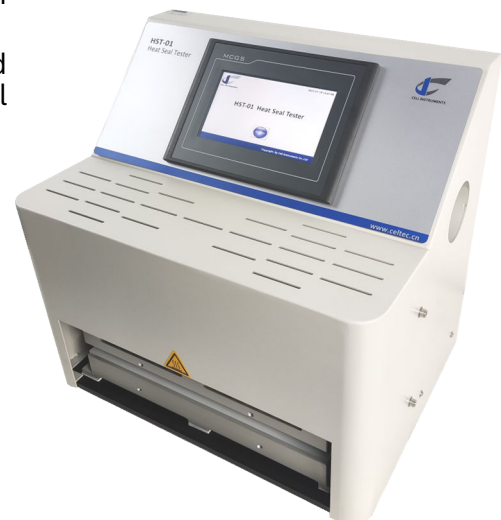
### Technical Features

The crucial aspects of a heat seal tester lie in its stability and precision concerning time, temperature, and pressure. The HST-01 heat seal tester guarantees excellent sealing outcomes through our cutting-edge design, emphasizing both stability and accuracy.

- 1.The unit is PLC controlled (industrial-level stability) and operated through an HMI touch screen.
- 2.Both the upper and lower components are constructed from aluminum and heated, ensuring minimal heat loss during sealing for consistent temperature.
- 3.A first-class P.I.D. temperature controller ensures precise temperature regulation and efficient heating.
- 4.Accurate timing combined with a proximity sensor enables synchronized seal initiation with jaw movement.
- 5.The sealing bar, guided in three directions, ensures uniform pressure.
- 6.User safety is prioritized with features like an anti-scald front cover, and tests can be manually initiated or via a foot switch.
- 7.Customizable seal jaws are available in terms of dimensions, shapes, and patterns.
- 8.The inclusion of an RS 232 COM Port and optional computer software offer additional functionalities. (optional)

### Main Parameters

Sealing Temp.	Ambient~300°C
Deviation	±0.2°C
Sealing Time	0.1S~9999S
Sealing Pressure	0.15~0.7 MPa
Seal Jaws	330*10 mm L*W
Gas Pressure	0.7 MPa
Port Size	Φ6 mm PU Hose
Power	AC 220V 50Hz



*The Company reserves the right to update, modify, or amend this Catalog without prior notice.*

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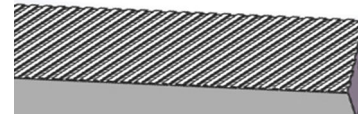
### Jaw Shapes



Ground flat sealing jaws



Crimped sealing jaws



Knurl sealing jaws

### Test Process

Place a sample between two parallel heated sealing jaws with flat surfaces. When the required temperature reaches equilibrium, the upper seal jaw, driven by a gas cylinder, is pushed down to exert a certain pressure on the sample and remain for some time. When the preset sealing time ends, the upper sealing jaw returns to its original position and the whole heatsealability testing process finishes.

### Similar Models

- HST-02 Heat Seal Tester
- GHS-01 Gradient Heat Seal Tester
- GHS-02 Gradient Heat Seal Tester

### Heat Sealing Evaluation

The heatsealability can be further analyzed by seal continuity, typically measured by air-leak, dye penetration, visual examination, microorganism penetration or other technique.

### Common Tests For Evaluation

#### 1. Seal Strength per ASTM F88 and ASTM F2824

Seal Strength testing, also known as Peel Testing, measures the strength of seals within flexible barrier materials.

Recommended Tester: TST-01 Tensile Tester



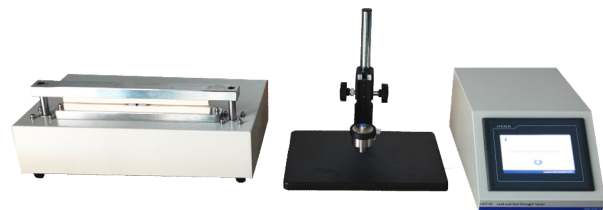
TST-01 Tensile Tester

#### 2. Burst and Creep per ASTM F1140 and ASTM F2054

They are used to determine the packages strength. The burst test is performed by pressurizing the package until it bursts. The Creep test determines the packages ability to hold pressure for an extended period.

Recommended Tester:

LSST-01 Leak and Seal Strength Tester



LSST-01 Leak and Seal Strength Tester

#### 3. Vacuum leak test per ASTM D3078

It's way to check package integrity. The package is submerged in a chamber filled with water and a vacuum is created inside the chamber. Leaking package can be observed by the water bubbles.

Recommended Tester:

Leak Tester LT-02, LT-03



LT-02 Leak Tester LT-03 Leak Tester

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