RDM TEST EQUIPMENT

# HT-1XS HOT TACK TESTER

## Overview

Heat seal applications are constantly evolving to meet the challenge of higher specification materials and faster production methods. Food manufacturers, film converters, film producers and resin manufacturers are constantly striving to shorten cycle rates on packaging lines and recognise that optimising the heat sealing process is one way of accomplishing this and ensuring a higher degree of seal integrity. The number of heat seal applications is extensive, polypropylene and cello films, co-extruded films, thermoformed cups and trays, laminates and blisters, together with non-woven are only a few of the materials that are bonded by heat and as the number grows and new materials emerge in response to environmental demands, so does the need for more accurate, reproducible methods of measuring heat sealing capabilities and performance. Determination of hot tack performance requires a test method that provides repeatable results, free from operator interference. Other types of hot tack determination methods such as the falling weight or the spring test methods are difficult to regulate and are at best suited for rough pass/fail evaluations, neither method promises quantities data. The results are either peel or no peel and are inappropriate for the strict demands of true quality control, research and development.

Meets ASTM F-1921-98

nqa. ISO 9001 Registered UKAS QUALITY MANAGEMENT 015

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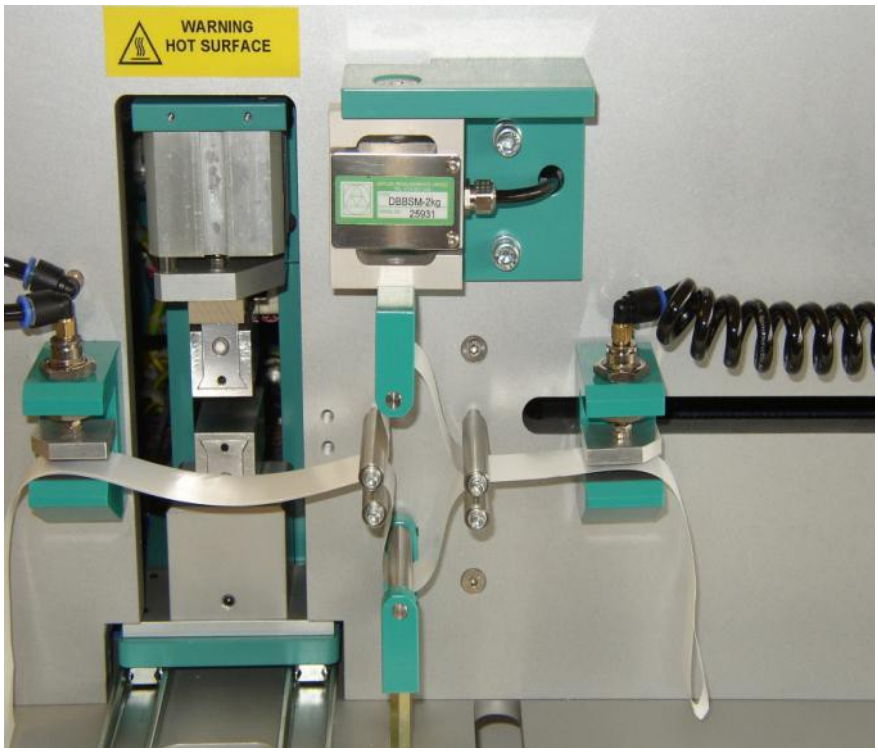
## Specification

The hot tack tester provides an accurate, repeatable and consistent method of testing the sealing properties of a wide range of materials. Precise control of temperature, pressure and dwell time is controlled via the touch screen display, whilst controls within the hot tack tester automatically pulls the sample away from the heated jaws. The force required to separate the seal is then measured by a sensitive and accurate load cell. The loading of the sample is quick and easy with a small pneumatic grip at each end of the mechanism. Both clamps are designed to prevent slippage or premature release of the sample material. The resulting seal force can be presented in either grams, Newton's or lbs by customizing the software. The computer interface and the specifically designed software enables the data to be captured and graphically displayed, along with test criteria for each file of testing. Results follow the requirements of the ASTM F 1921-98 test method producing load vs time and load vs temperature curves, and also featuring data management capabilities. Data can be printed in table format, graph format or Excel reports, furthermore data can be exported to other appropriate software for customized tables, SPC and other graphical reports. Cold peel testing can be performed on the same instrument, thereby making it possible to study Hot Tack and Cold Peel performance (ultimate seal strength) of seals and to obtain information about package performance both under production conditions and development. The HT-1XS can also perform Hot Tack measurement values using the falling weight test for comparison evaluation making it a versatile heat seal performance test apparatus.

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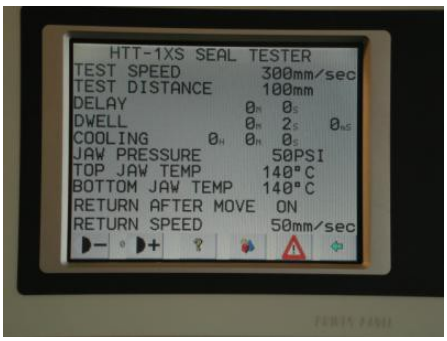
**Touch Screen Panel:** LCD, 256 colour QVGA, 320 x 240 pixels, 14.48 cm diagonal viewing. Touch screen, analogue resistive (gonze) with serial controller. Processor geode SC2200. 266 MHz MMX compatible. 64 Mb Dram main memory.
**Heat Sealing Process:** Temperature range – ambient to 250 deg. C +/- 1 deg C reading to 1 deg C, RTD input (deg F can be selected via the screen). Pressure range – 0 to 100 psi +/- 5 psi (other units can be selected via screen). Dwell Time range – 0 to 99.999 sec +/- 0.1 sec. Heat sealing head pneumatically operated to extend for heat sealing cycle and then return to rest position. Ensures heat is not influencing seal whilst waiting for pull cycle or when cold peel test option selected.
**Sealing Jaws:** Heated upper and lower ground flat aluminium jaws 25 x 50mm, supplied as standard. Jaws have an interchangeable feature which enables crimp jaws or custom-ised jaws to be fitted. Alignment of jaws made through spring mounted lower bolster. Teflon coating of jaws is an option.
**Hot Tack Measuring:** Load cell 'Z' bend strain gauge range - 2000g or 5000g (20N or 50N) +/- 0.25%. Pull speed range – 1mm/sec to 1000mm/sec. Manual or automatic return of cross arm to start position. Maximum cross arm travel – 100mm. Travel indication shown on main display panel in mm. Delay on pull range – 0 to 99min 99sec.
**Film clamps:** Left and right pneumatic clamps synchronised with pulling operation.
**Cold Peel:** Allows seal to completely cool and cure before pulling operation takes place producing cold seal strength measurement. Cooling Range – 0 to 99hrs 99mins 99sec.
**Safety Guard:** Micro-switch controlled guard in position feature.
**Environment:** 5-50C ambient operating temperature, RH 75% max (non-condensing)
**Power:** 110V AC or 230V AC 50/60 Hz 1000W
**Weight Drop Test:** The machine can be used in comparison work using drop weights attached to the free end of the sample seal, weights are optional.
**Accessories supplied:** 1000g calibration weight. 25mm x 350mm sample seal template
**Options** available: Crimp jaws 25 x 50mm, 120 deg x 1.8mm pitch. Teflon coating to sealing jaws. Silicone rubber covered lower jaw. Drop weight set


Boot up screen showing model and version


Default screen showing results and settings




Setup screen, password protected

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