



Orion PTS

PRECISION TESTING SOLUTIONS



OR-ULTS

Unrestrained Linear Thermal Film Shrinkage Apparatus

V1.01

Introducing a brand new range of materials testing equipment from **Orion-PTS**.

The **Unrestrained Linear Thermal Film Shrinkage Apparatus** is used to determine the thermal shrinkage of plastic film using a liquid immersion method of testing. The instrument is designed in accordance with the ASTM D2732 International Test Standard and is extremely cost effective, very simple to use and is ideal for polymer testing laboratories within the flexible packaging industry for testing the percentage shrinkage rates of polymer films.

Due to the films manufacturing process internal stresses may be locked into a film or sheet which can be released by heating, causing shrinkage of the material. The amount of shrinkage which takes place is dependent on the test temperature the material is exposed too. Test results are plotted on a graph showing percentage shrinkage against temperature.

Manufactured to a high standard the instrument comes with an integrated temperature bath manufactured from 316 stainless steel and fitted with a 16th Din PID digital temperature controller, heater and a PT100 platinum resistance thermometer which accurately maintains the test temperature to $\pm 0.1^\circ\text{C}$. To ensure temperature stability within the bath a stirrer motor is fitted and the duration of the test monitored by a built in electronic timer. For safety, the apparatus is fitted with a thermostat and emergency stop and comes complete with a lid to cover the bath when in use.

Internally the bath is fitted with a sample rack also made from 316 stainless steel and is supplied with 8 stainless steel sample holders which are immersed in a heat transfer medium. To Compliment the apparatus a sample cutting template 100mm x 100mm is supplied so test samples can be accurately cut with a sharp blade to the required sample dimensions.

To perform a test the apparatus is heated to test temperature and the test samples immersed in the heat transfer medium. After 10 seconds they are removed and allowed to cool back to room temperature. A measurement of the sample is taken across longitudinal and transverse directions and the percentage shrinkage calculated against its original size.

The instrument's economical features and high temperature accuracy make it a valuable piece of testing equipment within the polymer film industry

The apparatus can be supplied in either 110-120v 60 Hz and 220-240v 50 Hz.

Specifications

- Simple determination of thermal film shrinkage
- Liquid immersion method. Conforms to ASTM D2732
- PID temperature control
- Temperature resolution $\pm 0.1^\circ\text{C}$
- Thermal stability $\pm 0.2^\circ\text{C}$
- Integrated electronic timer HR:MIN:SEC
- 316 stainless steel bath and sample rack holder
- Emergency stop and over temperature thermostat
- Supplied with 8 stainless steel sample holders.
- Supplied complete with sample cutting template 100mm x 100mm
- Fully traceable certificate of calibration and instrument user manual
- UKCA/CE Certified
- Dimension (CM) - 67W x 33D x 42H
- Net Weight (Kg) - 25
- Available in 110-120v 60Hz and 220-240v 50Hz

Options

- 316 Stainless Steel sample holders
- Manual Sample Press
- Pneumatic Sample Press
- Test Sample Cutting die 100mm x 100mm