



Orion PTS

PRECISION TESTING SOLUTIONS

OR-HPFS

Hot Plate Thermal Film Shrinkage Apparatus

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

The **Hot Plate Thermal Film Shrinkage Apparatus** is used to determine the thermal shrinkage of plastic film using a "Hot Plate" method of testing. The instrument has been designed to be 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.

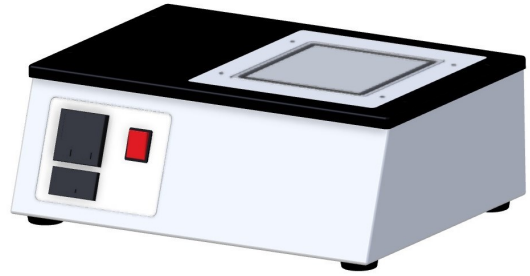
Manufactured to a high standard the instrument comes with an integrated heated sample plate manufactured from 304 stainless steel. Temperature is controlled by a 16th Din PID digital temperature controller, heater and a PT100 platinum resistance thermometer which accurately maintains the test temperature to $\pm 0.1^{\circ}\text{C}$. A built in electronic timer monitors the duration of the test. For safety, the apparatus is fitted with an over temperature thermostat.

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. The Template is also used as a weight to keep the film pressed flat against the heated sample plate.

To conduct simple test a film sample of round or rectangular shape is placed on the hot plate which is maintained at a constant temperature. The surface of the hot plate is lightly oiled with silicone oil to ensure good heat transfer from the hot plate to the film and a light cover plate which keeps the film flat is placed on the top of the film sample. After a set time the film is removed from the hot plate and cooled to room temperature. It is then re-measured and its percentage shrinkage determined.

Although the apparatus is not controlled by any International test standard 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
- Hot Plate method of testing
- Hot Plate size 128mm x 128mm
- PID temperature control
- Temperature Range ambient to 200°C
- Temperature resolution $\pm 0.1^{\circ}\text{C}$
- Thermal stability $\pm 0.2^{\circ}\text{C}$
- Integrated electronic timer HR:MIN:SEC
- 304 stainless steel heated plate
- Over temperature thermostat
- Supplied complete with sample cutting template 100mm x 100mm
- Fully traceable certificate of calibration and instrument user manual
- UKCA/CE Certified
- Dimension (CM) - 40W x 30D x 15H
- Net Weight (Kg) - 15
- Available in 110-120v 60Hz and 220-240v 50Hz

Options

- Manual Sample Press
- Pneumatic Sample Press
- Test Sample Cutting die 100mm x 100mm