



Designed and built to cover multiple international testing standards, the Ray-Ran Advanced HDT/ Vicat Apparatus utilises microprocessor technology to accurately determine the deflection and softening point characteristics of all thermoplastic test specimens.

The HDTNicat apparatus allows for multiple simultaneous testing of samples depending on the amount of test stations available, either 2 or 4. The simple manually operated raise and lower function of the test stations ensure easy access to the test sample supports for sample loading and retrieval before and after each test. Each test station is fitted with a PT100 platinum resistance thermometer which accurately records the temperature next to the sample under test to 0.1 °C and an electronic displacement transducer which measures the sample displacement to 0.01 mm as standard or to 0.001 mm as an option. The on-board microprocessor ensures test result accuracy and repeatability and the built-in liquid crystal display (LCD) provides simple on-screen instructions reducing user error.

Test parameters are easily selected using the on-board membrane keypad. A simple data selection process and yes/no prompts make the operating procedure very simple to undertake. The microprocessor's temperature control function ensures the ramping rates of either 50°C/h or 1 20°C/h are kept within the specified test standard requirements as well as performing non standard ramp rates to customers own specific needs. Test temperatures of 300°C are easily achieved and to ensure optimum safety at higher temperatures, the Nitrogen Blanket option is recommended.



HOT- HEAT DEFLECTION/ DISTORTION TEST

A standard sized test specimen is subjected to a bending stress, whilst the temperature is raised at a uniform rate. The temperature at which the specified deflection occurs is measured and recorded. Testing is carried out in accordance with the ISO 75 (parts 1,2 and 3) and ASTM D648 Test Standards. For this test, a required fibre stress of 0.45, 1.8, or 8.00 MPa is easily selected. Custom fibre stresses can also be managed by the microprocessor if required. The unique binary weight system is used to apply the required fibre stress to the test sample and is automatically calculated by the microprocessor based on the sample size and span supports. Temperature ramp rates, sample size, span and deflection values are also easily entered into the testing parameters of each station. The HDT span supports of 100mm or 64mm are easily adjusted on each tool station to suite your testing method of Flat wise or Edgewise sample testing. Each machine is supplied with HDT test nibs with 3mm radius which are easily attached to the load displacement rods for testing in accordance with relevant international test standards.

VICAT (VST) - SOFTENING POINT TEST





For maximum testing capability look no further than the Ray-Ran Advanced 6 Station HDTNicat Apparatus. Built for multiple simultaneous testing of 6 samples to HDT or Vicat testing methods, the apparatus uses dedicated microprocessor technology to accurately determine the deflection and softening point characteristics of all thermo plastic test specimens. Its operator simplicity and high accuracy, makes the apparatus ideal for product development and quality control and has been designed to meet multiple International Testing Standards. On start up the advanced on board microprocessor starts work immediately by conducting a self-diagnostic procedure to ensure test result accuracy and reliability. The built-in liquid crystal display (LCD) provides simple on-screen instructions and test parameters are easily selected using the onboard membrane keypad. A simple data selection process using yes/no prompts make the setup and operating procedure very simple to undertake and reduces user error and operator training. The microprocessor's temperature control function ensures the ramping rates of either 50°/h or 120°C/h are kept within the specified test standard requirements as well as performing nonstandard ramp rates to customers own specific needs

Each test station is fitted with a PT100 platinum resistance thermometer, which accurately records the temperature next to the sample under test to 0.1 °C and an electronic displacement transducer, which measures the sample displacement to 0.01 mm as standard or to 0.001 mm as an option.

The integrated power raise and lower function of the test stations ensures safe easy access to the test sample supports for sample loading and retrieval before and after each test. For maximum temperature stability across each of the test stations the apparatus is fitted with a dual pump oil stirrer system. Test temperatures of 300°(are easily achieved and to ensure optimum safety at higher temperatures, the Nitrogen Blanket option is recommended.

The apparatus is supplied, as standard with an integrated solenoid operated cooling system which is automatically activated after each test. It can be connected to either a standard water supply or to the optional chiller unit for improved heat reduction. The integrated cooling coil ensures rapid heat loss back to start temperature conditions within a short time period increasing production.

The one touch self-calibration feature of the apparatus ensures that the machine and test results remain accurate. A unique calibration interface unit is supplied with each machine that is simply connected to the apparatus for you to carry out the calibration procedure.

The apparatus is supplied, as standard with advanced data logging software which connects via the RS232 serial interface connector. The software records the temperature/deflection profile of each station in real time during a test. Test results are displayed in tabular format and reports can easily be generated by the software for results presentation. If required, test results can also be saved as .CSV files which can be opened with Microsoft Excel for data manipulation, further report presentation or for importing into customer specific software.



Accessories

- HDT/Vicat testing enabled
- Advanced microprocessor control
- Power rise and fall of test stations
- Dual pump stirrer system
- 6 sample test stations
- Digital temperature control
- Temperature range to 300°C
- Solenoid operated cooling system
- Integrated safety thermostat
- HDT Heads (1 per station)
- Vicat Nibs (1 per station)
- Standard Fibre Stress 0.45, 1.8 or 8.00MPa
- Used defined fibre stress for HDT testing available
- Standard Vi cat penetration of 0.1mm or 1.00mm
- User defined penetration depth for Vi cat testing available
- Temp resolution +/- 0.1°C
- Temperature ramp rates of 50° or 120° C/hr
- User defined ramp rates available
- HDT span supports 64mm or 100mm
- Resolution +/- 0.01 mm
- Bath capacity 18 litres
- Built in printer
- RS 232 connection & cable
- Windows data logging software
- Fully traceable certificate of calibration
- Product user manual
- CE declaration certificate
- 1 year return to base warranty
- 240v 16amp
- Conforms to ISO 75-1, 75-2, 75- 3, 306, and ASTM D648, D1525, D5944, D5945

Optional Ancillaries

- Displacement Transducer 0.001mm
- Binary HDTTest Weights (1 set required per station)
- 1.00Kg VicatTest Weight (1 required per station)
- 5.00Kg Vicat Test Weight (1 required per station)
- Light Weight Load rods to test to .45 MPa
- Heat Transfer Medium Sltrs
- Nitrogen Blanket
- Air to Nitrogen Extractor
- Water Chiller unit

Weights & Dimensions

- Net Weight (kgs): 50
- Width (cm): 90
- Depth (cm): 60
- Height (cm): 40